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Purchasing Characteristics of the Shelled Peanut Market

Nathan B. Smith and Kent Wolfe

The elimination of the quota program in 2002 reduced the barrier to entry into the peanut shelling industry. Peanut producers have expressed interest in integrating up to peanut shelling and marketing their own peanuts to peanut manufacturers. The peanut shelling and manufacturing sectors are concentrated, with little information available related to shelling costs and manufacturer purchasing characteristics for peanuts. A peanut buyer survey was conducted to gauge the willingness of buyers to purchase peanuts from a new player in the market and to identify what characteristics are important to the buyers. The results indicate buyers are satisfied with current suppliers. However, buyers use more than one supplier and are open to new suppliers in the market.

Key Words: cooperatives, food manufacturers, peanut marketing, peanut shelling, peanuts

Changes made to peanut farm policy in 2002 have generated interest among peanut producers for investigating shelling their own peanuts for the manufacturing market. The peanut shelling and manufacturing sectors have become concentrated over time. Therefore, little information is available related to shelling costs or manufacturers' purchasing characteristics and demand for peanuts. A peanut buyer survey was conducted to gauge the willingness of buyers to purchase peanuts from a new player in the market and to identify what characteristics were important to the buyers. The survey was developed for investigation into a grower-owned shelling feasibility study.

Recent Peanut Program Changes

Production of peanuts for domestic consumption has been controlled by the government through acreage control and/or poundage quotas since the 1930s (Schaub and Wendland, 1990). The 2002 Farm Security and Rural Investment Act (FSRIA), also known as the 2002 Farm Bill, made a historic change to the peanut program by eliminating the quota system [U.S. Department of Agriculture/Farm Service Agency (USDA/FSA), 2002]. Prior to 2002, a two-price system was in effect in which quota

peanuts were supported at a higher price than non-quota peanuts, also called additionals. FSRIA established a marketing loan program for peanuts that lowered the price and no longer imposed limits on domestic production.

The majority of domestic use peanuts in the United States are shelled for peanut butter, candy, or snack use. Roughly 50% of shelled edible use peanuts are made into peanut butter. Of the remainder, about 25% goes into candy and another 25% is consumed in snacks [USDA/National Agricultural Statistics Service (NASS)]. Two peanut shellers purchase approximately 80% of the peanuts in the United States (Godwin, 2002). Thus, peanut producers sell into a concentrated market.

Under the peanut quota program, producers were assured they would receive a minimum price of \$610 per ton for quota production from 1996–2001. Because producers had the option of putting their peanuts into the Commodity Credit Corporation loan administered by three regional peanut cooperative marketing associations, shellers were willing to contract at the support price. Shellers would have to pay a higher price to purchase the peanuts out of the loan. With elimination of the quota program in 2002, peanuts grown for the domestic market are no longer limited, and anyone can grow peanuts for domestic consumption. Consequently, peanut producers have experienced an eroding of their bargaining position with shellers without the higher support price and limited production (Smith, 2002).

The 2002 Farm Bill set a loan price for peanuts at \$355 per ton—42% lower than the \$610 per ton price under the quota program. As a result, the margin for producers of peanuts is reduced, up to 42% for producers who owned their quota production. Due to this lower margin, a group of peanut producers in Georgia decided to explore the potential for capturing additional returns through shelling and marketing the peanuts they produce. Ray et al. (2001) conducted a survey of Georgia peanut producers and found over 70% would be interested in joining a new-generation cooperative that shelled and marketed its own peanuts. The National Center for Peanut Competitiveness conducted a benefit/cost analysis for a hypothetical shelling cooperative in southwest Georgia (Hancock et al., 2001). The results of that analysis showed a favorable benefit-cost ratio from shelling peanuts as a new-generation stock cooperative.

In 2002, the University of Georgia Center for Agribusiness and Economic Development (CAED) investigated the possibility of starting a peanut shelling facility in the Tift area of south Georgia. Because the literature is limited on the commercial use of shelled peanuts, the CAED conducted a telephone survey with brokers, confectionary companies, large candy manufacturers, and nut companies to obtain industry information. The survey, described in detail below, investigated the shelled peanut market and collected information on annual usage, preferred peanut grade or size, price paid per pound, and delivery preferences, as well as gauging interest in a new shelled peanut supplier.

Methodology

During May and June of 2002, the University of Georgia's Center for Survey Research, in cooperation with CAED, completed 44 interviews with food processors

Table 1. Locations of Companies Interviewed ($n = 44$)

Location	Frequency	Percentage	Location	Frequency	Percentage
Unknown (multiple locations)	5	11			(%)
Alabama	3	7	New Jersey	1	2
Florida	2	5	New York	2	5
Georgia	11	25	North Carolina	2	5
Illinois	1	2	Ohio	4	9
Indiana	2	5	Oklahoma	1	2
Louisiana	1	2	Tennessee	1	2
Michigan	1	2	Texas	5	11
Mississippi	1	2	Wisconsin	1	2
			Total	44	100%

and manufacturers that utilize peanuts as an input product. Using a computer-assisted telephone interview (CATI) system, the surveys were conducted among identified companies involved in the production of confectionary, peanut butter, and salty snack products. The survey questions were designed to eliminate the possibility of leading the respondents or introducing bias.

The questionnaire began with a series of three screening questions. The first asked all potential participants whether they were responsible for purchasing food products. If they were, the survey continued; if not, they were asked to provide the name of the person responsible for purchasing food products. The second screening question was used to identify companies that do not purchase shelled peanuts, and the final screening question filtered out businesses that do not purchase runner peanuts.

The respondents were then asked a series of questions to determine the types of shelled peanuts purchased and further processing required. Further processing included blanched peanuts, roasted peanuts, or blanched and roasted peanuts. Survey participants were also asked what types of products they produce, i.e., peanut butter, confectionary, or snacks. Questions were asked regarding peanut packaging, delivery methods used, and satisfaction with current suppliers. In addition, the survey contained a number of questions designed to gather information on the businesses' willingness to pay, including the additional amount they would be willing to pay for irrigated peanuts and "bar-ready" peanuts.

Data and Results

Forty-four businesses were interviewed for this study, all of whom purchase shelled, runner-type peanuts. These companies represent four major industries: candy manufacturers, confectionary manufacturers, salty snack manufacturers (nut companies), and brokers and dealers. Shelled peanuts are shipped to many states for use in producing food products. Table 1 provides insight into the geographic locations of the companies surveyed for this study. The majority of the companies interviewed

were located in Georgia (25%). This may be attributed to manufacturers locating facilities near input sources. Businesses located in Texas (11%), Ohio (9%), and Alabama (7%) followed in number of companies interviewed by state. At least one company was interviewed in a total of 16 states.

Figure 1 provides a breakdown of completed interviews by industry. Salty snack manufacturers (nut companies) represent the largest number of respondents (55.4%), followed by confectionary companies (33.7%), large candy manufacturers (8.9%), and brokers/dealers (2%).

Purchases of Peanuts by Grade and Price

The old adage, *it is easier to sell something people want than to sell something that is easy to produce*, holds true in the peanut industry. To compete in the shelled peanut market, it is important to supply peanuts with the specific characteristics required by food processors and manufacturers. The survey respondents were asked whether they purchase different peanut grades or sizes. During the shelling process, peanuts are separated and graded according to kernel size. Runner-type peanuts have four main grades. The largest size kernels are called "Jumbos," followed by "Mediums," and then "U.S.#1s." Peanuts that have come apart in the shelling process are called "Splits." Two-thirds of the companies interviewed reported they generally purchase Jumbo peanuts (figure 2). Medium peanuts are the second most frequently purchased (41%), followed closely by U.S.#1s (39%) and Splits (36%). Although figure 2 reveals Jumbos are purchased by a majority of the companies interviewed, limited insight is provided into the market share for each peanut size.

Based on the survey results, companies do not appear to purchase Jumbo peanuts if they are going to produce peanut butter products. However, they do purchase Mediums, Splits, and U.S.#1s for manufacturing peanut butter. Companies producing confectionary, snack, and other products with peanut ingredients purchase all sizes of peanuts.

In addition to peanut purchases by grade, buyers were asked to provide information on annual usage by grade and average price paid. Jumbos account for the largest number of peanuts being used, followed by U.S.#1s, Mediums, and Splits. Table 2 reports the mean and median purchases by grade. On average, the various companies are using a reported 151,048 tons of Jumbo peanuts and 129,098 tons of U.S.#1 peanuts. However, given the large range of annual usage for each peanut size group (i.e., usage of Jumbos ranged from 1 ton to 950,000 tons annually), the mean values reported in table 2 may skew the potential for a proposed peanut shelling cooperative. The median figures by grade indicate large outlier(s) in the responses. Large-volume companies would need to be targeted to be successful in marketing the cooperative production.

The peanut prices given in table 2 represent the mean and median prices pre-FSRIA. Buyers paid more per pound for Jumbo peanuts, for an average price of \$0.72 per pound. Mediums averaged \$0.69 per pound, while both U.S.#1s and Splits were being purchased for \$0.61 per pound. Again, the reported Jumbo prices ranged

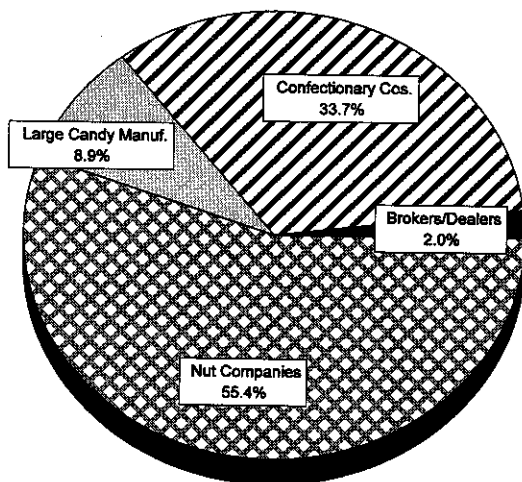


Figure 1. Completed interviews, by industry ($n = 44$)

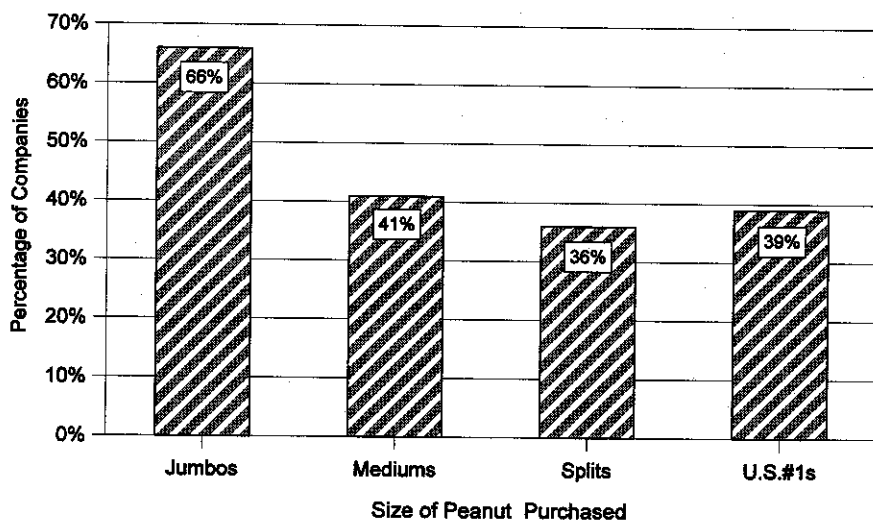


Figure 2. Size of peanuts generally purchased ($n = 44$)

Table 2. Reported Annual Peanut Purchases and Peanut Prices Paid, by Grade ($n = 44$)

Reported Annual Purchases (tons)			Reported Peanut Prices (\$) ^a		
Peanut Grade	Mean	Median	Peanut Grade	Mean	Median
Jumbos	151,048	14,000	Jumbos	\$0.72	\$0.69
Mediums	76,250	1,500	Mediums	\$0.69	\$0.62
Splits	30,950	5,250	Splits	\$0.61	\$0.55
U.S.#1s	129,098	14,000	U.S.#1s	\$0.61	\$0.56
Total	387,346	34,750			

^a Reported peanut prices are prior to passage of the 2002 Farm Security and Rural Investment Act (FSRIA).

from a low of \$0.45/pound to a high of \$1.14/pound. The median prices may be more representative of the actual market prices the proposed facility can expect to experience. In contrast to calculation of the mean value, the extreme high and low prices reported by respondents do not influence calculation of the median price.

Further Processing of Shelled Peanuts

Shelled peanuts have a thin skin intact, similar to a bean (the peanut is actually not a nut, but a legume). The skin can be removed through a process called blanching. Often times a blancher will also roast the peanut. The premise for a group of growers to own and operate a peanut shelling facility is to add value to a commodity in order to capture a larger portion of the marketing margin. Thus, the survey sought to determine if the companies are purchasing shelled, blanched, or roasted peanuts, or some combination of the three processing features. Based on survey responses, it appears the companies are more likely to purchase shelled or blanched peanuts than roasted peanuts. Only a quarter of the companies indicated they buy blanched/roasted peanuts. As shown by figure 3, shelling is the most important function of the facility (63% of companies interviewed reported they purchase shelled peanuts), but adding a blancher should be considered, or a blanching facility should be situated nearby.

Buyers may re-clean shelled peanuts on arrival at their facility. This is done to eliminate damaged and defective kernels as well as any foreign material. A sheller can produce a "bar-ready" peanut through the additional cost of further processing. A "bar-ready" line produces a peanut that can go straight from the shelling facility to the manufacturer's food processing line without any further processing. Buyers responding to the survey were asked if they purchase bar-ready peanuts. Results are presented in figure 4. Twenty percent of the companies purchase peanuts from a typical shelling line, 11% reported buying bar-ready peanuts, and 32% reported buying both. This question may have been confusing to the respondents, as 16% said "neither," and 20% did not respond or did not know. Nevertheless, the results indicate a proposed shelling facility should investigate the cost and benefits of installing a bar-ready line.

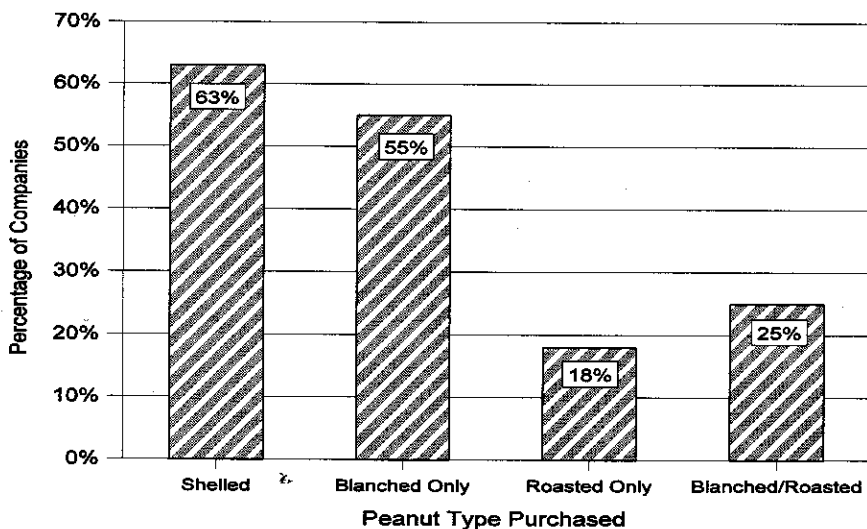


Figure 3. Types of peanuts purchased ($n = 44$)

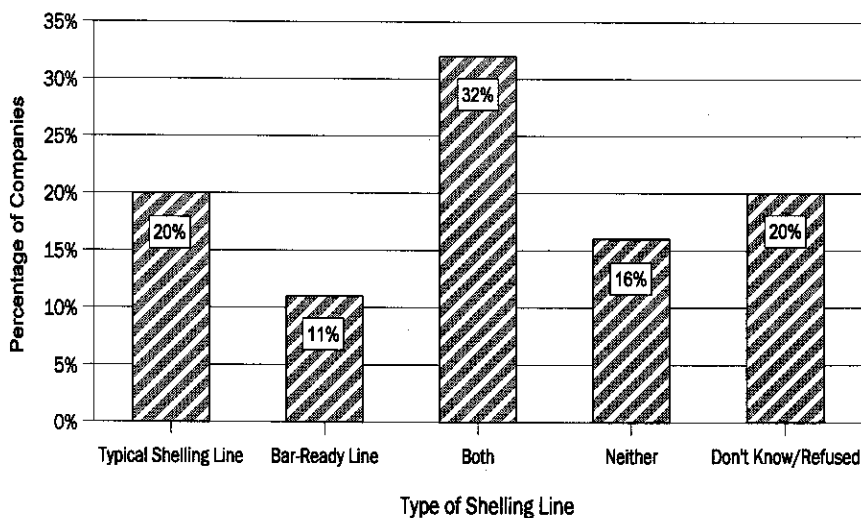


Figure 4. Peanut purchases by type of supplier sheller line ($n = 44$)

Willingness to Pay for Irrigated and Bar-Ready Peanuts

Food manufacturers seek a consistent quality peanut for production efficiency and customer satisfaction. Peanuts are grown under irrigated and non-irrigated conditions. The question was asked if the companies interviewed would be willing to pay more for irrigated peanuts. Figure 5 shows that just under one-fifth (18%) indicated a willingness to pay more for irrigated peanuts. When asked what additional amount they were willing to pay, 11% stated 5% more, and 5% answered 10% more (figure 6). According to these responses, quality of peanuts is not necessarily associated with irrigation by the buyers. If the vast majority of customers are not willing to pay more for irrigated peanuts, then financially, it may not make sense to irrigate the peanuts. However, if there is a quality issue where non-irrigated peanuts are inferior to the irrigated peanuts, non-irrigated production may hurt the proposed facility's market entry because of inferior-quality issues. The response findings are rather surprising, begging the question of whether the respondents associate irrigated peanuts with higher quality.

Following the quality issue, the companies were asked if they would be willing to pay more for bar-ready peanuts. One-quarter of the respondents reported they would pay more for bar-ready peanuts, and 39% stated they would not (figure 7). Among the companies indicating a willingness to pay more, no specific additional dollar value emerged as to what amount would be acceptable. Rather, there was a lack of consensus on how much more the companies would be willing to pay for bar-ready peanuts (figure 8). Bar-ready peanuts appear to fit a niche market that could be explored by a new peanut sheller.

Peanut Supplier Characteristics

The number of peanut suppliers a company uses was investigated. Spreading purchases among different peanut suppliers helps to reduce the risk of an inconsistent peanut supply. If problems develop with one supplier, the company has an alternative source of inputs and can maintain product production. Just over a quarter of respondents reported using only one supplier. Sixty-five percent reported use of multiple sources, ranging from two to ten suppliers (figure 9). Seven percent of the survey participants did not answer or did not know how many suppliers were used.

Peanut buyers indicated they have peanuts delivered at varying time intervals, as shown in figure 10. Thirty percent of the companies receive peanut deliveries daily, 14% receive weekly, 5% bi-weekly, and 23% receive their peanuts monthly. Twenty-seven percent responded "other," which includes *on demand* and *as needed* delivery responses. Delivery flexibility is required to serve the market. A significant percentage of the users require peanuts to be delivered on a daily basis. However, a similar percentage of the users have peanuts delivered monthly. Given this variation in delivery schedules, the proposed facility will need to have sufficient space to store product, as the users are located in different geographic regions and have different product delivery requirements.

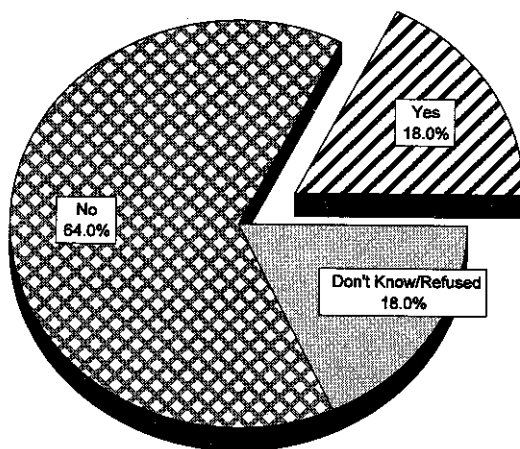


Figure 5. Willingness to pay more for irrigated peanuts ($n = 44$)

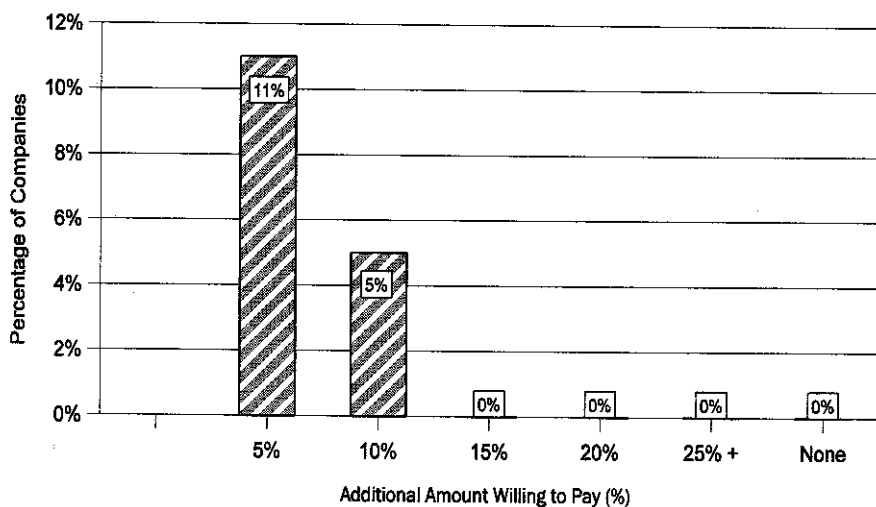


Figure 6. Additional amount willing to pay for irrigated peanuts ($n = 44$)

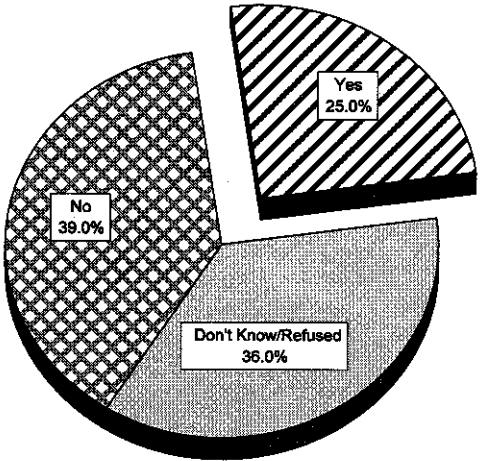


Figure 7. Willingness to pay more for bar-ready peanuts ($n = 44$)

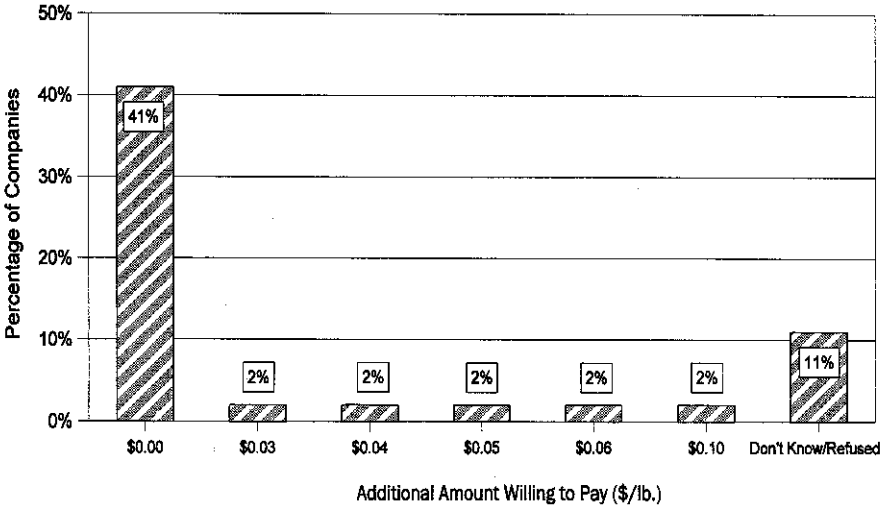


Figure 8. Additional amount willing to pay for bar-ready peanuts ($n = 44$)

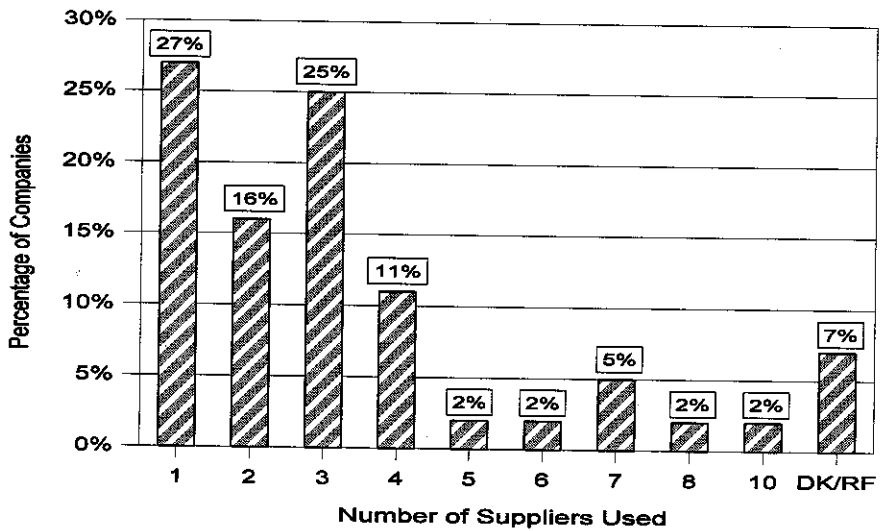


Figure 9. Number of current suppliers ($n = 44$)

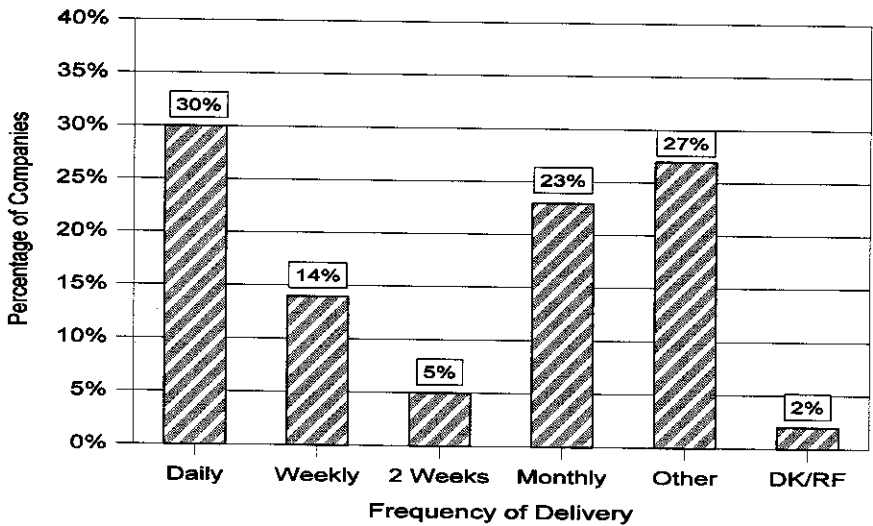


Figure 10. Peanut delivery frequency ($n = 44$)

Another important consideration included in the survey was how peanuts are delivered, or method of transportation. According to responses, a majority of peanuts are delivered via trucks (figure 11). Eighty-four percent of the respondents indicated their peanuts are delivered by this method, while only 5% reported peanut delivery by train. Therefore, to compete in the marketplace, the proposed shelling facility should have daily truck delivery capabilities.

Packaging was also considered in delivery characteristics. Based on the survey results, the proposed facility should be equipped to package peanuts in both bags and boxes (figure 12). Nearly 90% of the companies surveyed receive their peanuts packaged in bags or boxes, or both. Again, it is important to provide finished peanuts in packaging consistent with consumers' expectations, to eliminate possible reasons for not purchasing peanuts from the proposed facility.

Satisfaction with Current Suppliers

Overall, the companies that were interviewed are satisfied with their current peanut suppliers. Only about 10% of the respondents indicated they were less than satisfied with their current supplier(s) (figure 13). The apparent high level of satisfaction with current suppliers provides a barrier to entry by the proposed facility. Because the companies do not perceive any problems with their current suppliers, a new entrant will be challenged to convince the targeted companies it can offer a better product and superior service.

Although the interviewed companies are satisfied with their current suppliers, they appear to be willing to explore business relationships with new suppliers. The companies were asked if they would consider buying high quality runner peanuts from a newly established farmers' cooperative. About two-thirds of those interviewed indicated they would consider a new farmer cooperative supplier (figure 14). The response is encouraging and, at the very least, provides an opportunity for new peanut suppliers to meet with the companies and discuss potential peanut supplying arrangements.

Summary and Conclusions

A survey was designed to determine the purchasing characteristics of peanut buyers for shelled runner-type peanuts. The companies interviewed included large candy manufacturers, snack companies, nut companies, and brokers/dealers. Results revealed that companies purchase significant volumes of four different peanut grades. Jumbos were purchased most often by more companies, followed by Mediums, U.S.#1s, and Splits. Irrigated peanuts do not appear to be directly associated with quality by companies. This is an unexpected finding in that higher quality and consistency are commonly considered to be associated with irrigated production.

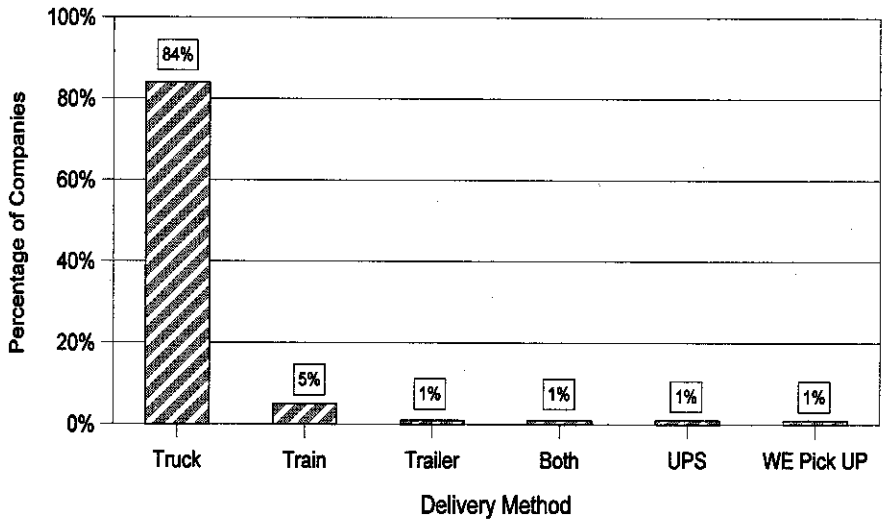


Figure 11. Delivery method used for peanuts ($n = 44$)

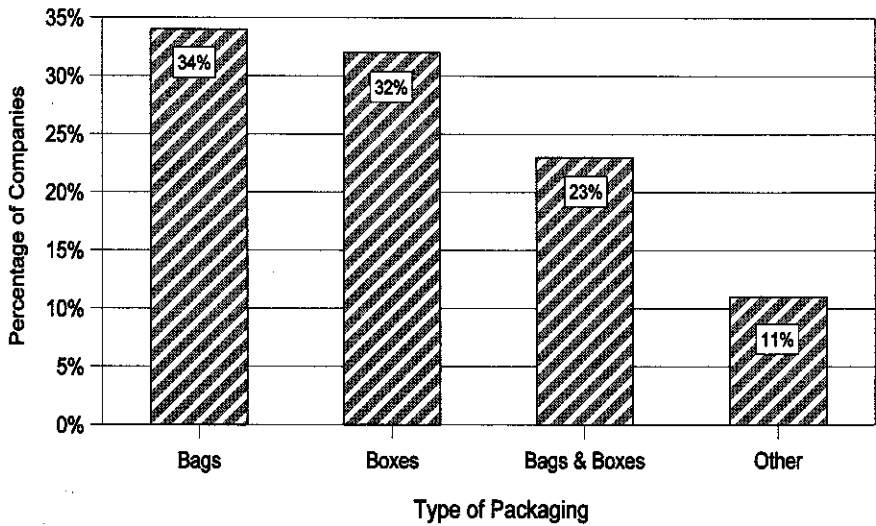


Figure 12. Types of peanut packaging used ($n = 44$)

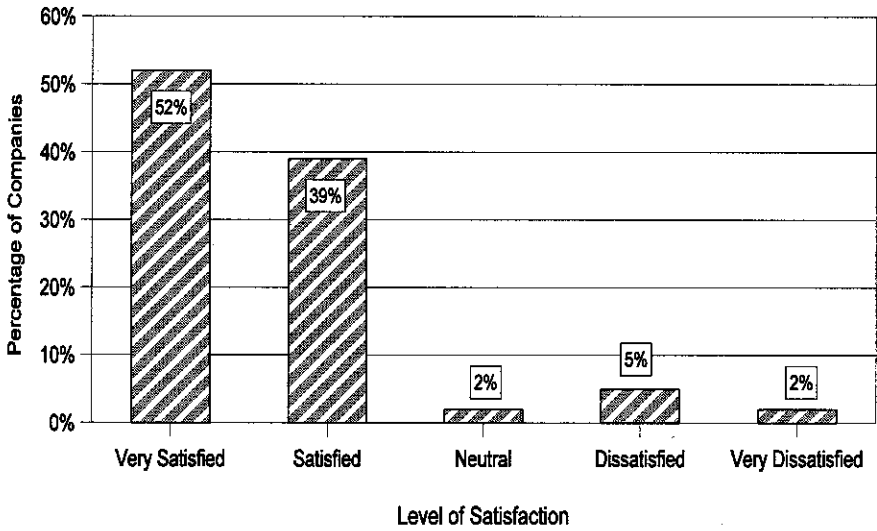


Figure 13. Satisfaction with current suppliers (n = 44)

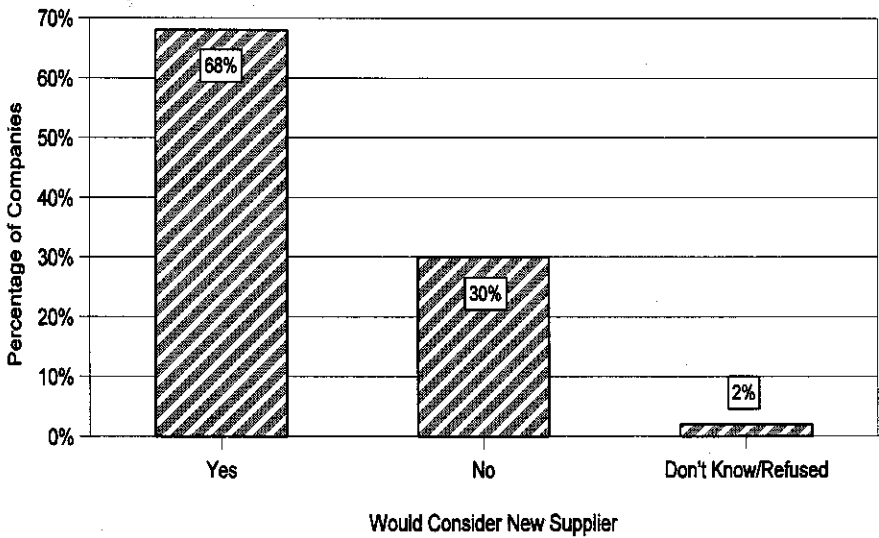


Figure 14. Willingness to consider new runner peanut supplier (n = 44)

Based on survey results, a proposed peanut shelling cooperative needs to be equipped for truck transportation, bagged and box packaging, and have access to a blanching facility. Delivery flexibility is required, as the timing of peanut deliveries varies from daily to monthly. Delivery flexibility would necessitate cold storage capacity. Due to survey responses related to utilizing "bar-ready" peanuts, the capability for producing bar-ready shelled peanuts should be investigated as a niche market.

Customer satisfaction is high among companies for current suppliers of shelled peanuts. This becomes a barrier to entry for a proposed facility. Because the companies participating in the survey do not perceive any problems with their current suppliers, it could be difficult to convince targeted companies that a farmer cooperative can offer a better product and superior service. In such a setting, price would become the major factor in competing for market share. Despite the high level of satisfaction, the door appears to be open for a shelling cooperative, as use of multiple suppliers is a current practice by a majority of companies. Moreover, the majority of companies surveyed stated they would be willing to consider a new supplier.

A possible limitation to this study should be noted. It is uncertain how representative the survey is of the industry. Jumbo peanuts are not typically used in peanut butter manufacturing, as was confirmed in the survey. Since peanut butter makes up 50% of shelled edible peanut use, the survey results could be biased by non-inclusion of any of the three major peanut butter brand companies. Due to the wide range of company size within the industry, any entrant into the peanut shelling market would need to be able to capture market share with a major manufacturer or find a niche market, such as bar-ready peanuts. A new cooperative shelling facility is likely to succeed if it is able to compete on the basis of price, develop a niche market, or be successful in convincing buyers the shelling cooperative can provide better and more consistent quality than current suppliers.

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