The University of Georgia

Black County Peanut Producers

Shelling Feasibility Analysis

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**Introduction**

**Background**

The U.S. peanut industry experienced major change with the repeal of the peanut quota program in the 2002 Farm Bill. Prior to 2002, peanuts in Georgia and the U.S. were grown under a supply control program whereby poundage allotments determined the supply for domestic consumption. The United States Department of Agriculture (USDA) set the total allotment annually which was allocated by state based on historical allotments. The peanut quota program had been in place in some form going as far back as the 1942 Farm Bill. The 2002 Farm Bill included peanuts as a covered commodity in the new Direct and Counter-cyclical Program (DCP). The DCP program was designed to allow peanut production to be more market-oriented. Prior to 2002, peanut shelling operations had consolidated to the point that two large companies purchase, shell and market peanuts. Interest was sparked among peanut growers by these changes in the feasibility of entering the peanut shelling and marketing market. Two groups of growers formed in Georgia to investigate the feasibility of shelling and marketing peanuts as a grower-owned business. Two new shelling facilities were built in 2003 and 2004 with the formation of American Peanut Growers Group and Tifton Quality Peanut.

Since the 2002 Farm Bill, peanut production has been more volatile. Peanut acres compete with cotton, corn and soybeans in Georgia and other peanut state. Planted acres are bid each year by shellers through option contracts to growers. The 2014 Farm Bill introduces more change and uncertainty into the peanut industry, at least in the initial years of implementation. The introduction of generic base (old cotton base) to planting decisions adds another factor to annual peanut production. The DCP program is replaced by the Price Loss Coverage (PLC) program and the Agricultural Risk Coverage (ARC). Producers can elect which program to participate on a farm by farm, crop by crop basis. The PLC reference price for peanuts is $535 per ton. The 2014 market price for peanuts is below the reference price due to a surplus of peanuts. This will likely steer peanut producers to elect PLC on peanut base. In addition to peanut base, generic base can be temporarily allocated to a covered commodity base on an annual basis. But, generic base is different than peanut base or base of one of the other twenty one covered commodities in that it requires the covered commodity to be planted. There is potential for growers to produce for the program in years of low commodity prices. Current low prices and new uncertainties have generated more interest in a grower-owned shelling facility.

**Premise of the Study**

A group of growers requested a study of a grower-owned facility to shell and market peanuts. The Center for Agribusiness and Economic Development was charged with the task of updating a previous study they conducted for a group of Tift Area growers. The previous study found that the formation of a grower-owned shelling facility was economically feasible due to lower barriers of entry at the time. A market survey revealed interest from buyers in another source of shelled peanuts. It has been over ten years since the first study was conducted. The general idea County is to secure market access and improve farm income and profitability through cooperatively shelling peanuts and marketing shelled peanuts to manufacturers. The goal of the present study is to determine the economic feasibility of a peanut shelling facility in Crisp, Georgia. The analysis will be conducted by updating the previous analysis based on recent data. Marketing a high-quality peanut on a consistent basis is believed achievable and this project seeks to determine the economic feasibility of such an endeavor.

**Objectives and Procedures**

The main objective proposed for the feasibility study was to evaluate constructing a new peanut shelling facility including farmer stock storage and cold storage in Black County, Georgia. The technical feasibility examines a state-of-the-art shelling facility capable of shelling peanuts at 20 tons per hour. Proposed levels of operation are 70,000 tons and 100,000 tons annually.

The interest among potential buyers to purchase peanuts from a grower-owned cooperative assessed through a marketing survey. The CAED gathered industry information to examine trends in the marketplace by conducting a survey of peanut customers including candy manufacturers, peanut butter manufacturers, snack manufactures, and other identified bulk peanut buyers. A random sample of potential peanut buyers was used to determine buyers’ likelihood of purchasing shelled peanuts. Information was collected on usage levels, package preferences, distribution preferences, blanching services, and prices paid.

The results from the technical and market analyses are incorporated into the financial feasibility. The financial analysis includes capital costs, fixed costs, and operating costs of the proposed facility. These costs include, but are not limited to, labor requirements and related costs, packaging costs, repair and maintenance, utilities, advertising, supplies and miscellaneous costs, insurance cost, and interest costs. The economic viability of the project is determined using these figures.

A county and area fiscal and employment impact model was prepared based on various levels of operation. The IMPLAN input-output model was used to calculate the direct and indirect impacts on such variables as county/area employment, tax collections and economic output.

# Technical Analysis

**Georgia Peanut Production and Processing**

Peanut production in the United States is largely limited to ten states (Alabama, Florida, Georgia, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Texas, and Virginia). Georgia continues to top the list in peanuts produced in the US averaging 44% of total harvested acreage over the last five years and 47% of the total production (NASS). Georgia planted 600,000 acres of peanuts in 2014 and has averaged 551,200 planted acres over the last five years. Georgia’s five-year average yield is 4,083 pounds per acre, for an average production of 2.25 billion pounds or 1.125 million tons. Peanuts are grown in at least seventy counties in South Georgia (FSA). The farm gate value of peanut production in Georgia averaged $571.5 million from 2009 to 2013 and ranged from $401 to $892 million (CAED).

The infrastructure related to peanut production in Georgia includes buying points, warehouses, shelling plants, cold storage, and manufacturers. A new shelling facility would utilize some of the existing infrastructure, particularly buying points. Georgia had 121 licensed warehouses in and 134 buying points in 2014 (FSA, Spearman). Tonnage handled each season by a buying point ranges between 4,000 and 25,000 tons. In 2000 and 2001, most buying points operated at 65% to 75% capacity (Webb). Several buying points have warehouses to store peanuts, ranging from 2,000 tons to 15,000 tons capacity. A typical warehouse ten years ago stored between 3,000 to 5,000 tons.

Eight shelling entities operate in Georgia (American Peanut Council). Two major shellers, Birdsong Peanuts and Golden Peanut and Tree Nuts, controlled about 73% of the shelling market in Alabama, Florida, and Georgia in 2002 (Godwin). These two shellers have 31% and 30% of the total warehouse capacity in the Southeast according to Farm Service Agency Commodity Operations data (FSA). Currently, shelling plants operate in Arlington, Ashburn, Bainbridge, Blakely, Colquitt, Dawson, Donalsonville, Columbus, Rochelle, Smithville, Sylvester, and Tifton. No data was available on the shelling capacity of these plants.

A group of Black County Area farmers requested an in-depth study of a grower-owned facility to shell peanuts. The Center for Agribusiness and Economic Development was charged with the task of conducting the study. The general idea is to secure market access and improve farm income and profitability through cooperatively shelling peanuts and marketing shelled peanuts to manufacturers. Marketing a high-quality peanut on a consistent basis is believed achievable the group. This project seeks to determine the economic feasibility of such an endeavor.

**Peanut Acreage**

The availability of peanuts in the Black County area is important in determining the technical feasibility of the facility. If there is not enough input, the proposed shelling facility will not be able to operate efficiently. Table 1 presents total peanut acreage in the Black County area.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 1. Black County Area Peanut Acreage** | | | | | | | | | | | |
| **County** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** |
| Ben hill | 5,800 | 6,700 | 8,200 | 6,800 | 5,500 | NA | NA | NA | 4,300 | 7,600 | 5,000 |
| Coffee | 19,200 | 22,800 | 29,500 | 20,700 | 20,100 | 23,900 | 15,400 | 14,500 | 12,400 | 24,500 | 13,700 |
| *Black* | *11,600* | *12,400* | *13,800* | *8,600* | *11,900* | *13,600* | *10,000* | *12,100* | *8,200* | *15,600* | *8,300* |
| Dodge | 3,800 | 4,000 | 5,600 | 3,400 | 2,400 | 5,500 | NA | NA | NA | 6,000 | 2,500 |
| Dooly | 10,700 | 11,500 | 17,600 | 13,300 | 15,900 | 25,600 | 21,300 | 19,300 | 13,400 | 18,300 | NA |
| Houston | 1,200 | 2,400 | 3,800 | 2,400 | 3,000 | NA | NA | NA | NA | 2,700 | NA |
| Irwin | 19,400 | 21,500 | 28,100 | 22,700 | 19,200 | 25,100 | 18,800 | 20,000 | 14,700 | 23,100 | 13,000 |
| Lee | 12,000 | 12,000 | 16,000 | 12,100 | 10,000 | NA | NA | NA | NA | 19,000 | NA |
| Macon | 2,000 | 3,400 | 6,400 | 4,000 | 3,700 | NA | NA | 4,100 | NA | NA | 2,600 |
| Pulaski | 7,000 | 7,000 | 10,800 | 7,200 | 6,100 | NA | NA | 9,400 | NA | 9,000 | 6,200 |
| Sumter | 11,300 | 10,500 | 14,600 | 10,000 | 7,700 | 10,500 | 8,900 | 10,300 | 9,100 | 14,800 | 9,300 |
| Tift | 13,900 | 15,400 | 16,800 | 12,800 | 11,800 | 16,200 | 12,000 | 10,400 | 8,800 | 13,200 | 8,500 |
| Turner | 11,000 | 13,300 | 16,600 | 12,500 | 11,300 | 14,100 | 13,200 | 11,500 | 9,600 | 14,300 | 9,600 |
| Wilcox | 9,300 | 10,700 | 12,000 | 7,900 | 10,900 | 16,400 |  | 13,900 | 8,400 | 17,100 | 10,500 |
| Worth | 27,900 | 27,600 | 32,400 | 25,800 | 26,700 | 33,000 | 27,000 | 27,000 | 22,000 | 31,500 | 22,000 |
| **Total** | 166,100 | 181,200 | 232,200 | 170,200 | 166,200 | 183,900 | 126,600 | 152,500 | 110,900 | 216,700 | 111,200 |

**Figure 1: Peanuts, Irrigated – Acres Harvested, 2012**

Source: United States Department of Agriculture, Census of Agriculture, 2012.

**Special Note:** The Steering Committee that contracted this feasibility analysis has received Bid prices for Shelling Facility Design and Construction and Storage Facility Warehouse Construction from Multiple companies and the Construction Cost Estimates were determined by these bids and submitted by the Steering Committee. Specific equipment, diagrams and design flow charts and facility drawings are not included in this study. For specific questions regarding this aspect of the study please contact the Steering Committee.

However, it is important to note that there are a number of peanut shelling facilities in Georgia, the US and internationally and the equipment and process exists to produce the products being examined in this feasibility study.

Start-up costs were provided to the CAED by the steering committee obtained cost of construction quotes. Secondary data from previous studies by the National Center for Peanut Competitiveness, the Center for Agribusiness and Economic Development, and private sources were used for operating costs. The shelling turnout rate is assumed at 1,550 pounds of whole, split, and broken kernels or 77.5% peanut and 22.5% hulls. This assumption is based on recent three-year shelling turnout rate for a similar shelling plant. The 1,550 pounds is used to reflect a combination of irrigated and non-irrigated production. The turnout rate will change over time as newer varieties are adopted other than Georgia-06G which makes up over 80% of the Southeast seed supply.

Market prices for shelled peanuts are no longer reported by the USDA Agricultural Marketing Service. In the absence of official prices, a shelled price series was obtained from a private broker of peanuts. The price series is the broker’s own observation of where price would trade. These prices are not necessarily prices from actual trades that occurred. The initial analysis used an Olympic average price from 2004 to 2013 for four sizes of shelled kernels, splits, ones, mediums and jumbos. Given the outlook for peanut production, a low price shelled price projection was for estimating potential returns to shelling.

Georgia wage and tax rates were used to estimate appropriate labor and benefit cost. The annual ownership cost was determined by applying standard interest and depreciation rates to the capital cost of the plant. The objective was to determine the yearly cost and returns for a new shelling facility once it is in full operation, for an average year.

## Peanut Market Analysis

Peanut usage both domestically and internationally continually grow. Shelled peanut use has doubled over the last 46 years and is expected to continue to grow in the future. Figure 1 presents the trend in peanut usage by products. The largest growth is taking place in the peanut butter which is expected to trend upward as the demand for domestic and global peanut butter demand continues to grow.

*Peanut Usage*

Since 1967, the majority of peanuts have been used to produce peanut butter.

Figure 1. Shelled Peanut Usage by Primary Product

Since 1967, the majority of peanuts have been used to produce peanut butter. From 1967 to 2006, peanut butter utilized have or slightly more than half of the shelled peanuts. This trend has increased significantly since 2006 and is currently at 60 percent and is expected to continue to grow, figure 2.

Figure 2. Primary Product Usage as a Percent of Total

It is important to examine the factors that drive the demand for peanuts to gain insight into future trends and product usage. The following provide information into the market for the three main users of shelled peanuts.

## Peanut Butter Market[[1]](#footnote-1)

The Peanut Butter Production industry has exhibited impressive growth in the five years to 2013 as revenue increased 7.9% per year on average to $1.5 billion. While this growth rate is considerably higher than that of similar food production industries, it masks the actual volume growth of peanut butter, which has increased only slightly over the period. Peanut butter is a consumer staple and does not experience wild fluctuations in demand, even during recessions. The main reason the industry's revenue has increased over the past five years is due to an increase in the price of peanuts. In particular, the wholesale price of runner peanuts spiked in 2011 due to a drought in southern growing states, as well as high cotton prices, which compete with peanuts for growing space. To cover this increased cost, producers raised retail prices and revenue grew accordingly. In 2013, industry revenue is expected to grow 2.3% as demand remains steady and peanut prices return to levels that are more in line with their long-term average.

The industry is highly concentrated, with the top four companies accounting for 83.3% of industry revenue in 2013. Powerful major companies such as the J.M. Smucker Company, which producers the market-leading Jif brand, and ConAgra Foods, which owns Peter Pan, have further entrenched their position within the industry over the past five years through heavy marketing and product innovation. Operators wary of the rise of the health-conscious consumer have expanded their product lines to include healthier all-natural alternatives to traditional peanut butter. The success of the industry is also attributable to peanut butter's reputation as an inexpensive source of protein. This attribute helped the industry during the recession as many consumers sought more affordable protein alternatives.

Demand for peanut butter is expected to remain robust in the next five years as it maintains its position as an important household staple. However, because of fluctuating peanut prices, industry revenue will likely remain volatile. Peanut butter producers will keep a close eye on input prices, hesitant to pass on any cost increases to consumers. In an attempt to increase profit margins, major producers are expected to continue to seek opportunities abroad, especially in Asia, as the domestic market reaches maturity. As a result of these trends, industry revenue is expected to grow at an annualized rate of 1.6% to $1.7 billion in the five years to 2018.

Peanut butter products have traditionally been separated into two major categories: crunchy (or chunky) and creamy (or smooth). However, a wide variety of new products have been introduced to the market in recent years. Largely spurred by the popularity of Italian chocolate hazelnut spread Nutella, all major US peanut butter producers have developed chocolate-flavored products in recent years, such as Jif's Chocolate Silk peanut butter. Small independent producers have seized this opportunity to capture a niche market by releasing creatively flavored peanut butters, such as Peanut Butter and Co.'s The Heat is On, which includes cayenne pepper and chili powder. Some of these products, like Skippy Chocolate Stripe, expand on the previous trend of swirling peanut butter in the jar with its traditional add-ins; Smucker's product Goober alternates stripes of grape or strawberry jelly with stripes of peanut butter in the same jar and has been available in the United States since 1968.

Other new products have attempted to respond to lifestyle changes in the US peanut butter-consuming public. For example, all of the major peanut butter producers have introduced "to-go" varieties of their products, wherein peanut butter is packaged in small (usually 1.5 oz.) disposable packets, creating a convenient snack for children's lunches or for busy adults. Peanut butter varieties marketing themselves as all-natural have also become popular in recent years, largely due to general consumer concern over healthy lifestyles. As small natural peanut butter brands, such as Trader Joe's, grew in popularity, major producers embraced the trend and released such products as Skippy Natural. Producers have also addressed public health concerns by releasing low sodium or unsalted peanut butter varieties, as well as reduced fat peanut butter and peanut butter enhanced with omega-3 fatty acids, which producers claim have significant nutritional benefits.

Organic food products have also become more popular in the United States in recent years due to public concern for both personal health and the environment. Unlike natural peanut butter, organic peanut butter actually differs from traditional peanut butter in that all ingredients in organic peanut butter must be in adherence to the tenets of the US Department of Agriculture's National Organic Program framework. In spite of growing public interest in organic products, organic peanut butter still represents only 1.0% of the total US peanut butter market, according to the Southern Peanut Growers. This small share does not necessarily represent the unpopularity of organic peanut butter; rather, it indicates the extent to which traditional crunchy and creamy peanut butter varieties dominate the peanut butter market.

*Creamy peanut butter*

To be labeled as peanut butter, at least 90.0% of a product's total weight must come from peanuts. In creamy (also called smooth) peanut butter production, peanuts are ground to a paste before oil, salt and sugar are added to create a finished product. The peanuts in creamy peanut butter can be ground to a variety of degrees of fineness; some creamy peanut butters are known for being particularly thin, while peanut butters with more coarsely ground peanuts will have a thicker finished consistency. Industry analysts estimates that 70.0% of peanut butter production is devoted to creamy peanut butter, which, in addition to being popular as an end product, is also used in the production of many other finished products, such as peanut butter candies or cookies. Creamy peanut butter's share of total industry revenue has grown in the last five years, largely due to the fact that it is more generally used in new formats; for instance, Jif To Go cups are currently available in five flavors, four of which are based on creamy peanut butter.

*Crunchy peanut butter*

Crunchy (also known as chunky) peanut butter resembles smooth peanut butter, but has chunks of peanuts incorporated into it. To produce crunchy peanut butter, either coarsely ground peanuts are added to creamy peanut butter, or the peanuts are purposefully incompletely ground during the original grinding process. Crunchy peanut butter is slightly lower in saturated fat and higher in fiber than creamy peanut butter. Like creamy peanut butter, crunchy peanut butter varieties can be flavored, organic, reduced fat, all-natural and salted or unsalted. However, crunchy peanut butter is less commonly found in specialty or niche products, such as peanut butter-jelly mixes or to-go packages, and is less frequently used as a component of peanut butter-flavored snacks. C As these creamy peanut butter-based products have grown in market share in the past five years, crunchy peanut butter's share of total industry revenue has decreased to about 30.0%.

*Demand Determinants*

Peanut butter enjoys a reputation in the United States as a universally liked food that even children readily accept. According to the National Peanut Board, 90.0% of US households regularly consume peanut butter. Peanut butter is a relatively affordable source of protein and has a long shelf life; as such, many consumers perceive peanut butter to be a household staple. Even in dire economic times, most consumers will not significantly cut back on peanut butter purchases, aside from niche flavored products, which make up a very small share of the total market. Therefore, demand for peanut butter is relatively stable. Particular brands may experience shifts in demand, but the overall demand for peanut butter does not fluctuate much based on external factors, as evidenced by the industry's relatively stable revenue growth during the recession.

Public health scares related to a specific brand of peanut butter can have a short-term negative impact on overall product demand. Peter Pan peanut butter caused a nationwide salmonella outbreak in 2007, and not only did that company's sales take a nosedive, but overall demand for peanut butter slightly decreased amid public fears of contamination. Similarly, peanut allergies can also have an impact on industry demand. Although only about 1.0% of the US population is allergic to peanuts (according to the National Institutes of Health), efforts to increase awareness of the existence and severity of these allergies can lead to slight contractions in industry demand, as institutions, particularly schools, avoid peanut butter products.

Health and eating trends will influence demand for peanut butter, although these shifts in demand will generally be short-term. Although peanut butter is high in fat and sugar, it is generally perceived as a relatively healthy food due to its high protein content and the lack of additives in most industry products. Industry efforts to emphasize the healthy characteristics of peanut butter, including the introduction of organic products and portion-sized packaging, will likely have a positive effect on overall industry demand. Similarly, the introduction of new product flavors, particularly those that take advantage of general food trends, such as Peanut Butter and Company's Dark Chocolate Dreams, which capitalizes on increased consumer demand for dark chocolate, will also likely have a positive, albeit small and short-term impact on demand.

*Imports*

US imports of peanut butter are relatively low, accounting for just 2.6% of domestic demand. The market dominance of the three most popular US peanut butter brands (Skippy, Jif and Peter Pan) limits demand for foreign-made products. Moreover, peanut butter in its current form was invented in the United States and is a traditionally American food; as such, consumers generally demand domestic products. Most industry associations carry a national or regional title (e.g. Southern Peanut Growers, American Peanut Council), indicating the importance of locality to the peanut industry.

Over the five years to 2013, the total value of imports has fallen an annualized 1.2% to $39.1 million. The value of the US dollar tumbled during the recession, making foreign products relatively more expensive for US consumers. Consequently, the value of imports accordingly fell 16.9% and 12.5% in 2009 and 2010, respectively. Since the US economy has begun its slow recovery, the total value of peanut butter imports has steadily risen, but has yet to reach prerecession levels.

The main sources of industry imports are Canada, which accounts for 22.2% of total imports by value, and Mexico, which accounts for 13.6%, largely due to the favorable trade conditions established by the North American Free Trade Agreement (NAFTA). China also accounts for 6.8% of total industry imports in 2013, down from 14.7% in 2008. China's decreased share of imports is largely due to international concerns about the safety of Chinese food products. In the wake of scandals over the past five years involving tainted Chinese milk, baby formula and dumplings, US consumers have demanded fewer Chinese-made food products. Food safety has been a particular issue for peanut butter producers since Peter Pan suffered from a salmonella outbreak in 2007. As a result of the severity of that peanut butter-specific food safety scare, public concern about importing peanut butter from China may increase.

*Exports*

Exports account for 5.8% of total industry revenue, or about $88.9 million in 2013. American peanut butter is known internationally for its high quality and the product itself is emblematic of American food culture. Industry associations (particularly the National Peanut Board and the American Peanut Council) have undertaken significant marketing efforts to further this perception and increase foreign demand for US peanut products. Industry exports have experienced robust growth in recent years, increasing at an annualized rate of 9.1% from a total value of $57.6 million in 2008. However, much of this growth correlates with overall industry revenue growth, as exports accounted for a relatively similar 5.5% of total industry demand in 2008.

Exports surged in 2010, growing 23.4% in that year alone, as recessionary pressures kept the value of the US dollar low. Since then, the stabilization of the dollar has led export growth to also stabilize, with the total value of exports increasing 4.1% in 2013. Canada and Mexico are the two largest export markets for peanut butter, accounting for 38.4% and 11.3% of the total market, respectively. Similar to their prevalence in the import market, Canada and Mexico's dominating presence in the export market can also be attributed to favorable NAFTA trade conditions. European Union and East Asian countries are also large export markets for American peanut butter, likely due to both trade agreements and local tastes and preferences.

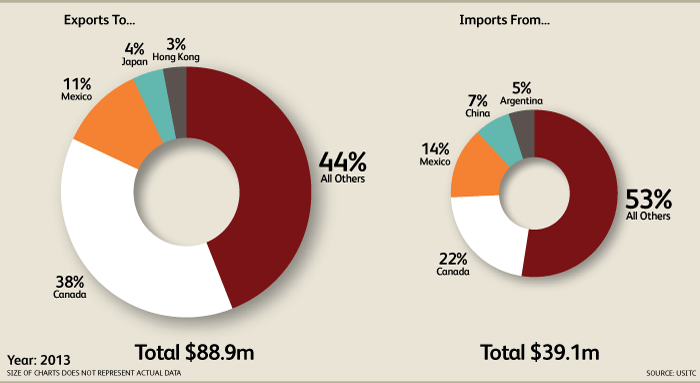


Figure 3. Import and Export Countries

## Snack Foods[[2]](#footnote-2)

The Snack Food Production industry has benefited from increased demand for snacks over the past five years, with revenue growth supported by rising discretionary income levels. As the economy continued to strengthen, renewed consumer spending boosted demand for potato chips, tortilla chips, nuts and seeds. In addition, as the price of corn and wheat increased, which are major ingredients used in most snack foods, many larger producers were able to maintain earnings by passing on higher costs to consumers in the form of higher prices. Consequently, industry revenue is anticipated to increase an annualized 4.2% to $35.2 billion over the five years to 2014, including a 3.0% jump in 2014.

Shifting food consumption trends have also impacted the performance of snack food producers over the period. Specifically, growing health concerns and awareness of the health consequences of eating foods high in sodium, fat and sugar have made consumers wary of consuming regular potato chips, tortilla chips and other snacks. However, demand for nuts and seeds has grown as Americans have become more aware of these snacks' health benefits. In response to growing health concerns, producers have introduced more healthy varieties of existing products, including reduced-fat and reduced-sodium brand extensions, as well as 100-calorie chips packs to appeal to consumers who want to limit their portions. These products, which are priced at a premium, have boosted industry profit in the five years to 2014.

The industry's future looks promising, with an improving global economy expected to lift both domestic and foreign demand for snacks produced in the United States. Projected increases in per capita disposable income will enable some consumers to trade up to premium brands and product segments like nuts, helping drive industry revenue growth. Additionally, as consumers demand more healthy versions of existing products, producers are expected to continue introducing a wider variety of snacks. As input prices stabilize, the industry's profitability will improve, enticing new companies to enter the industry. Furthermore, most of these new enterprises are anticipated to be niche, small-batch producers of premium snacks. Overall, industry revenue is anticipated to grow an annualized 3.4% to $41.7 billion over the five years to 2019.

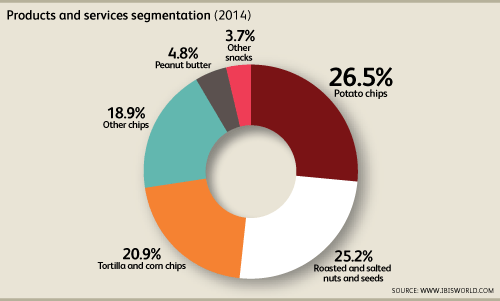


Figure 4. Products and Services Segmentation

The Snack Food Production industry has experienced a resurgence over the past five years, benefiting from the introduction of more healthy snacks and favorable product pricing. Americans have become increasingly health conscious, seeking more nutritious varieties of traditional snacks, such as potato chips and popcorn. Industry operators have successfully responded to shifting consumer tastes by introducing a variety of reduced-fat and low-calorie alternatives. Furthermore, new companies that specialize in nutritious snacks have entered the industry to capitalize on growing demand for these products. These newer products are priced at a premium when compared with mainstream and generic brands, but increasing per capita disposable income has enabled consumers to afford these premium products. In addition to growing demand for industry goods, higher product prices driven by increasing input costs are expected to boost industry revenue. Overall, Industry analysts expect revenue to grow an annualized 4.2% to $35.2 billion over the five years to 2014, including forecast growth of 3.0% in 2014

*Strong domestic and global demand for snacks*

Consumer demand for snack foods has grown over the past five years, despite higher product prices at retail stores. Several of the key ingredients used to produce snack foods experienced drastic price fluctuations during this period. For instance, corn and wheat are two common inputs used for chips and other snacks; the price of corn skyrocketed 58.0% in 2011 alone, while the world price of wheat increased by 41.4% that year. Rising input costs caused many producers to raise their product prices to maintain their margins. For instance, the price of a 16-ounce bag of potato chips rose by five cents in 2011, according to the US Bureau of Labor Statistics. Despite higher product prices, demand for snacks continued to grow during this period, as eating between meals has become more important to Americans. Also, rising discretionary income has enabled consumers to purchase a greater variety of snacks, despite increasing price levels.

The improving global economy has also supported demand for industry goods in foreign markets. Exports are anticipated to grow an annualized 11.1% to $1.4 billion in the five years to 2014, with a weak dollar in 2010 and 2011 driving this growth. Similarly, imports have grown rapidly, at an annualized 11.0% to $631.4 million during the period. Despite rapid growth, imports do not pose a significant threat to this industry, satisfying only 1.8% of domestic demand for snacks. Domestic consumers continue to favor US-based products that cater to their tastes and health interests; product lines such as Lays, Doritos and other chips also benefit from customer loyalty, helping protect their parent companies' market share.

*High profitability*

The Snack Food Production industry is more profitable relative to the food production sector at large, because snack prices are often much higher than the cost of inputs and production. The leading manufacturers in this industry particularly benefit from high profit margins due to well-established brands and economies of scale in production, distribution and marketing. PepsiCo, the largest snack manufacturer through its Frito-Lays division, regularly commands margins in excess of 25.0% of revenue, pulling the average profit margin in this industry to about 14.0%.

Moreover, successful manufacturers are able to charge a premium for their snacks because consumers perceive leading brands to be of higher quality than generic brands. Increased investments in technology and machinery have also boosted production and distribution efficiencies, aiding profit growth. Greater automation of the production process has enabled producers to hire fewer employees per facility. However, the number of workers employed by the industry has increased at an average annual rate of 2.4% to 49,269 workers over the five years to 2014, thanks to the entrance of new companies.

The profit of different snack producers also depends on fluctuations in commodity costs. Over the past five years, highly volatile input costs hampered the profitability of many small- and medium-sized producers, forcing some companies out of the industry. While large companies like PepsiCo and ConAgra successfully passed on the cost increases to consumers in the form of higher prices, many small- and mid-size companies were unable to raise their product prices. Still, overall participation has increased over the past five years, with the number of companies increasing at an annualized 2.5% to 531 by 2014. New companies are enticed by growing demand for industry products, high profit margins and room for growth in niche health and organic snacks markets.

*Healthy product innovations*

Over the past five years, consumers have become more aware of the negative health effects of eating foods high in trans fat, sugar and sodium. According to the Centers for Disease Control and Prevention, 90.0% of Americans eat more sodium than is recommended for a healthy diet, which puts these consumers at a higher risk of suffering from health conditions such as high blood pressure and other cardiovascular diseases. Salty and oily snacks including chips, pretzels and popcorn still constitute the majority of industry revenue, but the demand for regular varieties of these products has declined. Conversely, consumers have increasingly opted for healthier product variants that are made with little to no salt and trans fats.

To capitalize on shifting consumption trends, the leading snack food manufacturers have introduced a number of new products during the past five years. For instance, Frito-Lay came out with 100-calorie snack packs, which provide quick, on-the-go snacks for consumers who want to limit their caloric intake between meals. Kellogg also expanded its Pringles brand with 100-calorie packs. Higher demand for healthy snacks from consumers prompted downstream grocery wholesalers and retailers to increase purchases of healthful snack foods, helping boost industry revenue. Finally, a number of specialty companies that produce healthy snacks, such as Popchips and SkinnyPop, have emerged in recent years, diversifying the industry's offerings and driving demand.

The Snack Food Production industry is expected to keep growing over the next five years. As the economy continues to strengthen, per capita disposable income is expected to rise, enabling consumers to purchase snacks more frequently and trade up to branded and premium varieties. As the number of health-conscious Americans grows, companies are expected to continue introducing healthy varieties of chips, pretzels, popcorn and nuts. Overall, industry revenue is expected to increase at an average annual rate of 3.4% to $41.7 billion in the five years to 2019, beginning with 2.8% growth over 2015.

*Stabilizing costs and disposable income*

The costs of key inputs are anticipated to stabilize over the next five years, helping producers maintain their prices. For instance, while the world price of wheat is anticipated to rise an annualized 0.9% over the next five years, price changes will be less volatile than in the previous five-year period. Also, the price of corn is anticipated to decline at an average annual rate of 2.5% over the five years to 2019, lowering input costs for tortilla and corn chip producers. Consequently, some producers will benefit from higher margins, while other companies will choose to lower their product prices to gain market share. Enticed by improving profitability in the industry, Industry analysts expect new producers to enter the industry, boosting the number of enterprises an annualized 2.1% to 590 through 2019. As new companies join the industry, the number of employees is expected to grow at an average annual rate of 2.7%, to 56,257 workers over the period.

In addition to more stable input costs, the economy is anticipated to strengthen in the next five-year period, spurring higher discretionary income. Consequently, some consumers will purchase snack foods more frequently, while others will trade up to organic and higher-quality snacks that are priced at a premium. Global demand for US-manufactured snacks will also remain high, with exports growing at an estimated 8.1% per year on average through to 2019. By 2019, exports are expected to reach $2.0 billion, thereby generating a rising share of industry revenue. Global demand will be underpinned by rising incomes and population growth in emerging markets such as Brazil, Saudi Arabia and China. Neighboring Canada and Mexico will also propel export growth, especially of healthy snack varieties such as gluten-free and reduced-sodium potato chips and popcorn.

Imports are also anticipated to grow over the period, at an annualized 9.4% to $987.2 million by 2019. Growth will be aided by an appreciating US dollar, making imports less expensive, and by a growing number of Americans seeking greater varieties, including ethnic flavors. Still, imports are unlikely to penetrate the market significantly, fulfilling only about 2.4% of total domestic demand by 2019. US-based manufacturers are likely to retain the upper hand in brand recognition, customer loyalty, breath of snack lines and health-based product innovation.

*New products*

Snack food producers are expected to introduce more nutritious extensions of existing snack lines, to entice health-conscious Americans. The majority of new snack foods will contain less fat, sodium, sugar and calories than regular products. While larger manufacturers like PepsiCo have developed new technology that reduces the amount of oil absorbed by potato chips, smaller producers will also create new technology and processes to produce more healthful chips and snacks.

Manufacturers will also add ingredients that boost the nutritional value of chips, popcorn and peanut butter, including seeds, dehydrated vegetables and beans. Producers are also expected to promote healthy eating through various marketing initiatives. For example, Frito-Lay is increasingly showcasing its gluten-free products through online mediums, which will likely form a stronger marketing base in the future. While most product innovation in this industry will focus on improving the nutritional quality of existing snacks, manufacturers will also focus on providing greater indulgence for consumers. For example, the launch of Lay's chocolate-covered potato chips is anticipated to prompt other leading brands to introduce snacks that are both sweet and savory.

*Industry Outlook*

The Snack Food Production industry is expected to keep growing over the next five years. As the economy continues to strengthen, per capita disposable income is expected to rise, enabling consumers to purchase snacks more frequently and trade up to branded and premium varieties. As the number of health-conscious Americans grows, companies are expected to continue introducing healthy varieties of chips, pretzels, popcorn and nuts. Overall, industry revenue is expected to increase at an average annual rate of 3.4% to $41.7 billion in the five years to 2019, beginning with 2.8% growth over 2015.

**Peanut Candy[[3]](#footnote-3)**

There is a lack of peanut candy specific industry data. As a result, this section is less robust than the peanut butter and snack food sections. According to the National Confectioner’s Association, confectionery retail sales in the United States are expected to reach $34.5 billion in 2014.

The following data is a general analysis of the confectionery industry and will be used as a proxy for peanut candy data. Despite high unemployment and volatile commodity prices, America's sweet tooth has kept the Candy Production industry resilient over the past five years. The strategy of major companies, the top four of which generate 76.8% of total industry sales, has also contributed to industry resilience and growth. Major players, such as Mars Inc. and the Hershey Company, have taken advantage of brand loyalty to pass on rising input costs to consumers in the form of higher prices. In addition, most large and midsize players have diversified product offerings in response to changing health and demographic trends. Consequently, in the five years to 2014, the industry is expected to grow at an annualized 2.9% to $7.9 billion. This includes mild growth of 0.5% in 2014 due to low sugar prices; although, profit is expected to remain high over the period.

Consumers have become increasingly conscious of the link between heavy sugar intake and disease. In response, candy producers are increasingly offering products like sugar-free gum and low-sugar, low-caloric breakfast bars. This changing product mix has enabled the industry to reduce its dependence on its market segment comprising of children below 14 and focus on appealing to the growing demographic of adult households with no children.

Growing consolidation among operators has also contributed to industry dynamism and profitability, while intensifying market share concentration. In response to volatile input prices, major players have been actively acquiring smaller companies; this helps keep per unit costs of production low via economies of scale while also protecting market share. For example, in 2012, global candy producers Farley & Sathers Candy Company and Ferrara Candy Company opted to merge to benefit from combining forces without enduring the costs of organic growth.

Growth is expected to remain strong over the five years to 2019, with revenue rising at an annualized 3.0% to $9.1 billion. Growth will be underpinned by strong exports and ongoing innovations in the production and marketing strategies of the major players. The competitive tactics and strategies of these players will also help the industry weather ongoing challenges, including the penetration of low-cost candy imports from China and elsewhere.

**Pricing**

Figure 5. Historical Peanut Prices Source: Broker.

Figure 6. Historical Number Ones Peanut Prices Source: Broker.

Figure 7. Historical Splits Peanut Prices. Source: Broker.

Figure 8. Historical Mediums Peanut Prices. Source: Broker.

Figure 9. Historical Jumbos Peanut Prices. Source: Broker.

# Survey Results Black County

To further understand the market for shelled peanuts, the Center for Agribusiness and Economic Development conducted a survey of large peanut purchasers. The following information was collected in November and December of 2014.

Splits are the most generally purchased peanuts according to the survey results, table 2. Ninety three percent of the respondents indicated that they purchase splits. Jumbos and mediums were purchased by 60 percent of the respondents, which is significantly lower than the figure for splits. Less than 20 of the respondents purchase number ones and other types of peanuts.

|  |  |
| --- | --- |
| **Table 2. Does your business purchase generally purchase jumbo peanuts, medium peanuts, split peanuts, US #1s or other types of peanuts** | |
| Peanut Type | Percent that Purchase  (n=40) |
| Jumbos | 60% |
| Mediums | 60% |
| Splits | 93% |
| US #1s | 18% |
| Other | 15% |
| Virginia’s | Mentioned 6 times |
| Spanish | Mentioned 4 times |
| #2s | Mentioned 3 times |
| Georgia 06 runner and Valencia | Each mentioned 1 time |

The respondents were then asked if their business purchases a variety of processed peanut products. Eighty three percent of the respondents purchased shelled peanuts, while 75 percent indicating they purchased blanched and roasted peanuts. Nearly two-thirds of the respondents indicated that they purchase blanched peanuts while approximately half purchased roasted and skinned peanuts. The respondents were able to provide multiple responses to this question.

|  |  |
| --- | --- |
| **Table 3. Does your business purchase shelled peanuts, blanched peanuts, roasted skin peanuts or blanched and roasted peanuts.** | |
| Peanut Type | Percent that Purchase  (n=40) |
| Shelled | 83% |
| Blanched | 63% |
| Roasted skinned | 53% |
| Blanched and roasted | 75% |

The respondents were then asked what type of products they produce that utilizes peanuts. The vast majority produce peanut butter (83%) and snacks (75%). This figure is consistent with the utilization figures presented in table 1. Forty three percent produce some type of confectionary product while others produce a variety of peanut based products, see table 4.

|  |  |
| --- | --- |
| **Table 4. What types of products do you manufacture that utilize peanuts** | |
| Products | Percent that Purchase  (n=40) |
| Peanut butter | 83% |
| Confectionary | 43% |
| Snacks | 73% |
| Other (each mentioned once) | 35% |
|  | nut butter |
|  | wildlife feed |
|  | biodiesel |
|  | livestock |
|  | feed |

The respondents were asked how may tons of peanuts they purchase annually and at what price do they pay for their peanuts. The jumbo peanut purchase is significantly larger than the other peanut purchases on average, see table 5. The purchase of medium and splits are significantly lower across all the metrics presented in table 5. Interestingly, the average price paid for the peanuts was fairly consistent with the exception of the price of splits which was on average about 20 cents more per pound. It is important to remember this is a small sample of peanut purchasers and not every respondent provided a price. However, these prices appear to be consistent with price data supplied by broker.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 5. Reported Annual Peanut Purchases in Tons and Prices per Pound** | | | | |
|  | Jumbo | Medium | Split | US#1 |
| High | 10,000,000 | 250,000 | 400,000 | 7,000 |
| Low | 8 | 1 | 4 | 50 |
|  |  |  |  |  |
| mean | 500,560 | 27,608 | 29,790 | 3,017 |
| Median | 6,000 | 2,500 | 150 | 1,500 |
|  |  |  |  |  |
| Average Price | $0.47 | $0.43 | $0.65 | $0.44 |

The respondents were asked what type of shelled peanuts they purchase. Over half of the respondents indicated that they purchase peanuts for shellers with a shelling line and ingredient bar. Just 13 percent indicated they purchase bar ready peanuts. However, 31 percent of the respondents indicated that they purchase both types of shelled peanuts.

|  |  |
| --- | --- |
| **Table 6. Do You Buy from Shellers that have a Typical Shelling Line and Ingredient Bar or a ‘Bar Ready’ Line, or Both** | |
| Peanut Type | Percent that Purchase  (n=40) |
| Shelling line and ingredient bar | 54% |
| Bar ready | 13% |
| Both | 31% |
| Neither | 3% |

The information in table 7 presents the respondents preferences for various shelled peanut attributes and willingness to pay for each attribute.

|  |  |
| --- | --- |
| **Table 7. Reported Annual Peanut Purchases in Tons and Prices per Pound** | |
| Purchase Preference |  |
| Blanched | 18% |
| Normal Line | 45% |
| Neither | 37% |
| Percent prefer blanched | Responses |
| 0% | 3 |
| 5-10% | 11 |
| 20-30% | 9 |
| 60-70% | 2 |
| 100% |  |
| Mean | 29% |
| Median | 20% |
| Willing to pay more for irrigated peanuts |  |
| Yes | 18% |
| No | 82% |
| How much more for irrigated peanuts | One respondent answered question |
|  |  |
| Willing to pay more for irrigated peanuts |  |
| Yes | 51.9% |
| No | 48.1% |
| How much more for bar ready peanuts | Responses (only 3) |
| $40 | 2 |
| $65 | 1 |
| $75 | 1 |
| Need for high Oleic peanuts |  |
| Yes | 25% |
| No | 75% |
|  |  |
| How many pounds annually | Responses (only 7) |
| 5,000 | 1 |
| 6,000 | 1 |
| 22,679 | 1 |
| 2,000,000 | 1 |
| 6,000,000 | 1 |
| 10,000,000 | 1 |
| 30,000,000 | 1 |
| How much more willing to pay or Oleic peanuts |  |
| 1-2 cents per pound | 20% |
| 3-4 cents per pound | 35% |
| Did not answer | 45% |

It appears that the respondents purchase products from a number of shelling companies, table 8. Forty-eight percent purchase from one to five shelled peanut suppliers while one third purchase from six to ten different suppliers. One in six indicated that they purchase shelled peanuts from between 11-25 different suppliers.

|  |  |
| --- | --- |
| **Table 8. How Many Peanut Supply Companies do you Utilize** | |
| Number of peanut suppliers | Percent that Purchase  (n=40) |
| 1-5 | 48% |
| 6-10 | 33% |
| 11-20 | 15% |
| 25 | 5% |

The respondents were then asked their level of satisfaction with their current suppliers. Nearly all of the respondents indicated that they were either very satisfied or satisfied with their current suppliers. As a result, breaking into the market may be difficult.

|  |  |
| --- | --- |
| **Table 9. Satisfaction with Current Suppliers** | |
| Satisfaction | Percent  (n=39) |
| Very Satisfied | 51% |
| Satisfied | 49% |
| Neither satisfied nor dissatisfied | 0% |
| Dissatisfied | 0% |
| Very dissatisfied | 0% |
| Mean | 1.5 |

The respondents were asked about the frequency of peanut deliver to their facilities. Sixty percent of the respondents indicated that they receive daily shipment of peanuts. The remaining 40 percent of respondents indicated they receive shipments anywhere from bi-monthly to monthly to larger periods of time, see table 10.

|  |  |
| --- | --- |
| **Table 10. Delivery Frequency** | |
| Frequency | Percent  (n=40) |
| Daily | 60% |
| Weekly | 15% |
| Every two weeks | 5% |
| Monthly | 10% |
| Other | 10% |
| 3 months out of the year | 1 |
| Bi-monthly | 2 |
| Quarterly | 1 |

The respondents were asked how they receive their peanuts. Two-thirds of the respondents indicated that they receive their peanut shipments by truck. Thirteen percent reported they receive peanuts by train with another 18 percent stating a combination of the two. This information suggests that having both truck and rail delivery options would be necessary to ensure that purchaser’s preferred delivery method will be available.

|  |  |
| --- | --- |
| **Table 11. How Peanuts are Delivered** | |
| Delivery Method | Percent  (n=40) |
| Truck | 65% |
| Train | 13% |
| Truck and train | 18% |
| Other | 5% |
| Wagon and trailer | 2.5% |
| Truck and containers | 2.5% |

The vast majority of the respondents would consider a new supplier even though they are satisfied with their current suppliers. The main reasons provided for considering a new supplier are prices and quality.

|  |  |
| --- | --- |
| **Table 12. Consider a New Peanut Supplier and Oil Content Requirement** | |
| Consider a new supplier | Percent that Purchase  (n=40) |
| Yes | 82% |
| No | 18% |
| Reasons for not considering new supplier | Price and quality issues |
|  |  |
| Specific Oil Content Requirement |  |
| Yes | 10% |
| No | 90% |
| Reasons for not saying no | Not sure about their requirements |
|  |  |

**III. Financial Analysis**

**New Shelling Facility and Farmer Stock Warehouses**

The examination of constructing a new peanut shelling facility begins with what is the most efficient size of shelling plant to construct. The proposed facility is designed to mill 18-20 tons per hour as the most efficient plant size. A smaller capacity shelling plant would involve downsizing the equipment and transfer system. Increasing capacity at a later date would involve having to replace existing equipment and/or adding equipment and upgrading the transfer system. The building that would house the shelling plant would have to be planned to handle future expansion in anticipation of remaining competitive. Therefore, savings would not be realized in reducing size of the building. The startup costs are estimated in Table 1. Land acquisition and site prep are assumed to be $1.5 million. The shelling facility and equipment is assumed at $19 million which includes processing equipment, bins, mezzanines transfer spouting, aspiration/dust collection bag filter systems, hammermill system for hulls and trash, bulk load-out system, compressed air system, electrical, buildings (pit area drive thru, shelling plant, dry storage, bulk load-out, loading dock, and hull load-out), foundations and concrete, installation labor. Cold storage is assumed to be $1.5 million for 10 million pound storage. Farmer stock warehouses are estimated at $7.5 million for 60,000 tons of storage. Other buildings include office building, receiving and grading building and trailer shed. Working capital for operations and contingency is projected at $10 million. Miscellaneous equipment for farmer stock and shelled goods handling is allocated $200,000. Adding the startup capital costs together gives a total cost of construction of a new shelling facility that will shell between 18-20 tons per hour at $40,200,000.

**Table 1. Startup Capital Costs**

|  |  |
| --- | --- |
| **Cost Category** | **New Facility** |
|
| Land and Site Prep | $1,500,000 |
| Shelling Facility and Equipment | $19,000,000 |
| Cold Storage | $1,500,000 |
| Farmer Stock Warehouses | $7,500,000 |
| Other Buildings/Office | $500,000 |
| Working Capital / Contingency | $10,000,000 |
| Miscellaneous Equipment | $200,000 |
| Total | $40,200,000 |

Operating and ownership cost of operating a new peanut shelling facility assuming operation at a capacity of 19 tons per hour is provided in Table 2. The plant is assumed to run two eight hour shifts for 48 weeks. The remaining four weeks would be for retooling and maintenance. The assumption of running at 95% capacity is made for unanticipated down time. A 2% shrink associated to storage is assumed of the feedstock. This would give a total of 69,312 tons of farmer stock peanuts processed. The farmer stock peanuts would be stored in new warehouses constructed with the facility. A three percent shrink was assumed for purchased farmer stock for losses in handling and unforeseen losses. Including this loss results in a total of 71,391 tons of farmer stock purchased. Four 15,000 ton warehouses were assumed to be constructed at a cost of $1,875,000 each for this study. A 5,000 ton feedstock warehouse is included with the new shelling plant that feeds directly into the facility. It is assumed for this study that existing buying points in the County area would be used to handle peanuts at harvest for a commission of $50 per ton. Total operating costs are summarized in Table 2.

**New Shelling Facility Running 24 Hour Shifts**

As an alternative to running two eight-hour shifts, the possibility of running the new shelling facility twenty-four hours a day, five days a week was examined. The same assumptions on capital costs for the new facility are used. Direct costs of operation are increased according to the tons of farmer stock peanuts purchased and processed. A total of 103,968 tons of farmer stock are processed in this scenario by running 24 hours a day for 48 weeks. A 2% shrink factor from storage is included in the total tons processed reflecting an average rate of shrink (Butts). The total tons shelled and sold equals 101,889 tons after the storage shrink is applied. A storage fee is assumed to be charged for the average amount of peanuts stored over the 48-week period which was 4.85 months. A shrink of 3% is applied to the farmer stock peanuts so that a total 107,087 tons is purchased as farmer stock from members.

Two 12-hour shifts are assumed using the same labor and management. Labor is paid time and a half on the additional hours above 8 hours a day. The increased cost of labor is assumed to be the overtime for direct labor. Other directs costs are increased by a factor of 1.5 in to reflect additional 8 hours per day. Fixed costs are not assumed to change by running additional hours. Direct labor costs increase from $1,935,000 to $2,460,000 based on overtime pay.

**Returns to Shelling**

The average yearly cost of operation is summarized for the 16-hour (~70,000 tons shelled) scenario and 24 hour (~100,000 ton shelled scenario) in Tables 2 and 3. The largest expenditure is the purchase of peanuts for shelling. The purchase price was assumed at a loan rate of $355 per ton adjusted for grade. The TSMK grade is assumed at 76% with a loan value of $4.869 per point. The cost of peanuts adjusted for grade results is $35,184,240 for the 16 hour per day scenario and $52,159,089 for the 24 hour per day scenario. The cost per ton of procuring farmer stock is $381.15 per ton. Included in the direct cost of peanuts are a handling fee, storage fee, grading fee, and transportation to the warehouse. Shrink is also included to account for the physical loss of peanuts during the process whether through handling or shelling. The total direct cost is estimated at $38,900,840 for the 16 hour per day scenario and at $56,754,339 for the 24 hour scenario. Fixed costs for both situations total $2,622,237. The total cost equal $41,523,077, or $599.07 per ton, for the 16 hour per day and $59,376,576, $571.10 per ton for the 24 per day operation.

**Table 2. Cost Comparison for New and Existing Facilities, 19 Tons/Hr Capacity**.

|  |  |  |
| --- | --- | --- |
| **Cost Category** | **16 hr/day**  **5 day/wk**  **48 weeks** | **24 hr/day**  **5 day/wk**  **48 weeks** |
|
| Direct Cost of Peanuts | $35,184,240 | $52,159,089 |
| Direct Labor Cost | $2,047,500 | $2,947,500 |
| Other Direct Costs | $1,294,100 | $1,647,750 |
| Fixed Costs | $2,622,237 | $2,622,237 |
| Total | $41,430,577 | $59,376,576 |

**Table 3. Cost Per Ton Comparison for New Facility, 19 Tons/Hr Capacity.**

|  |  |  |
| --- | --- | --- |
| **Cost Category** | **16 hr/day**  **5 day/wk**  **48 weeks\*** | **24 hr/day**  **5 day/wk**  **48 weeks\*** |
|
| Direct Cost of Peanuts | $508 | $502 |
| Direct Labor Cost | $35 | $28 |
| Other Direct Costs | $19 | $16 |
| Fixed Costs | $38 | $25 |
| Total | $599 | $571 |

\*Rounded to the dollar.

Potential returns are calculated using shelled prices for the different sized shelled kernels produced from shelling farmer stock. To estimate revenue from peanut shelling and processing, the ten-year Olympic average season price was calculated. A ten year series of average shelled prices by size is given in Table 4. These shelled prices the average F.O.B. domestic price for shelled peanuts in the Southeast collected and estimated by a peanut broker. The ten-year olympic average was calculated to capture a long enough price trend that reflects peanut fundamentals and variability. Jumbos averaged $0.475 cents per pound, mediums average $0.456 per pound, number ones averaged $0.41 per pound, and splits averaged $0.452 per pound for the period 2004 to 2013, dropping the high and low price. The current large supply of peanuts on hand from the 2014 crop and program changes in the 2014 Farm Bill Peanut Program lead the authors to consider conservative shelled prices for the analysis. Peanut acreage is expected to increase in 2015 increasing the supply. The 2008 to 2009 time period was a time of large production and low prices which ranged from $0.43 to $0.47 per pound by type. With the expectation of large carryovers for the next two years, a conservative price outlook of $0.45 per pound for jumbos, mediums and splits and $0.41 per pound for number ones are assumed. The oil stock price is assumed at $0.25 per pound and hulls at $0.05 per pound.

**Table 4. Historical Georgia and Shelled Runner Peanut Prices by Type.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Jumbos**  **(Cents/Lb.)2** | **Mediums**  **(Cents/Lb.)2** | **No. 1s**  **(Cents/Lb.)2** | **Splits**  **(Cents/Lb.)2** |
| 2004 | 0.389 | 0.362 | 0.349 | 0.359 |
| 2005 | 0.353 | 0.331 | 0.314 | 0.325 |
| 2006 | 0.495 | 0.420 | 0.395 | 0.410 |
| 2007 | 0.713 | 0.673 | 0.638 | 0.663 |
| 2008 | 0.476 | 0.454 | 0.432 | 0.450 |
| 2009 | 0.463 | 0.456 | 0.436 | 0.449 |
| 2010 | 0.700 | 0.693 | 0.650 | 0.690 |
| 2011 | 1.015 | 1.004 | 0.728 | 1.000 |
| 2012 | 0.518 | 0.503 | 0.481 | 0.499 |
| 2013 | 0.487 | 0.480 | 0.449 | 0.478 |
| 10 Yr. Olympic Avg. | 0.475 | 0.456 | 0.410 | 0.452 |
| 2008-2009 Avg. | 0.469 | 0.455 | 0.434 | 0.450 |
| Price Used in Analysis | 0.45 | 0.45 | 0.41 | 0.45 |

Source: National Agricultural Statistics Service, USDA & Private Broker

1 August - July marketing year

Income from shelling was calculated using adjusted prices by size and multiplying them by corresponding shelling outturn rate. Table 5 gives a three-year shelling outturn rate a typical shelling plant in the region.

**Table 5. Shelling Outturn Rates, Three-Year Average**

|  |  |
| --- | --- |
| **Type** | **Percent** |
| Jumbo | 31 |
| Medium | 17 |
| Number 1 | 4 |
| US Splits | 14 |
| Oil Stock | 11.5 |
| Hulls | 22.5 |

Source: Private Sheller

Estimated returns for each alternative are given in Table 6. Detailed cost and return budgets for each alternative can be found in the Appendix. The new facility is estimated to return $60 per ton based on projected average costs and returns of the shelling operation. Running the new facility at 24 hours a day is would net an estimated return of $78 per ton.

**Table 6. Estimated Shelling Returns Per Ton**

|  |  |  |
| --- | --- | --- |
| Cost Category | 16 hr/day  5 day/wk  48 weeks | 24 hr/day  5 day/wk  48 weeks |
|
| Shelled Value | $657 | $657 |
| Total Cost | $599 | $571 |
| Net Return | $58 | $86 |

# Management Analysis

## Corporate Structure

The organizational structure for the proposed Black County Peanut Shelling and Storage project will be a grower owned, LLC. The owner membership will be comprised of 150-175 grower members who have invested in the Company. Their stock ownership and investment amount will be determined by the number of tons of farmer stock peanuts that the farmer will commit to deliver to the peanut shelling facility. There will be grower delivery agreements as part of their being owner members. The LLC will be governed by and 8-10 member board of directors elected for 3 year terms and on a rotating basis. These directors will be elected by the membership. Profits and dividends from the company will be dispersed based on the bylaws generated by the Board of Directors. The day to day operation of the company will be managed by the CEO hired by the Board of Directors.

## Key Positions

Given that this is a startup operation, identified positions with responsibilities and qualifications are used to represent the type of person that will fill the job. The following Key positions were identified as being critical to the success of the operation.

**Plant Manager**

**Position Summary**

The Plant Manager is a proactive, strategic thinker whose skills contribute to the efficient, systematic and profitable operation of the entire manufacturing plant.  Responsible for implementing strategies to improve safety, increase efficiency, improve quality, and ensure continuous improvement. This manager has the proven ability to lead and grow the plant team using Lean Manufacturing principles.  Contribute as a business partner helping in the delivery of plan, mission, goals and values, ensuring prosperity of the company and its people.

*Primary Responsibilities*

* Achieve greater efficiency and productivity ensuring company goals are met by overseeing the manufacturing and distribution operations and personnel.
* Ensure optimum performance and understanding of goals by writing and following through on plant goals.
* Actively participate in corporate strategy, roundtables and planning.
* Provide expertise, make recommendations and take a pro-active role in the decision-making process of capital expenditures, upgrading manufacturing, buildings and equipment.
* Prepare and administer operations budget ensuring that the plant meets budget goals.
* Provide vision and strategy for the long-term prosperity of the plant by working with corporate management in the strategic planning for the company.
* Mentor and coach managers, supervisors and leads for success and encourage the leaders to mentor and develop all personnel.
* Find creative solutions to problems by providing and facilitating an environment, which encourages innovation.
* Keep up to date and on the leading edge of technologies in the industry by expediting new product development and production techniques.
* Ensure proper plant management by monitoring all phases of production and insisting that all procedures, specifications and standards are met and by maintaining effective communication with all employees, creating appropriate budgets, monitoring costs, and by maintaining good relations with FDA/USDA inspectors.
* Maintain even flow of work by being organized and planning ahead and then being able to make changes as needed.
* Develop highly productive supervisors, managers, leads and work teams by using training and motivational techniques and by delegating specific duties to key personnel.
* Provide leadership for employees by being a good role model.
* Oversee the management staff by monitoring efficiencies, conducting reviews, counseling sessions, evaluations and by keeping up to date records.
* Ensure that all necessary paperwork is completed according to prescribed procedures, accurately and timely by following through on delegated tasks and assisting where necessary.
* Ensure proper processing of product by monitoring all operations, including production, packaging, maintenance, etc., as well as equipment, cleanliness and personnel.
* Ensure profitability of processing department by formulating products for quality and least cost maintaining high yields and minimum floor waste.
* Ensure meat inventories are monitored and that meat is properly rotated using oldest meat first.
* Supervise management staff insisting that all employees are properly trained, that paperwork is timely and accurate, and performance reviews are conducted timely.
* Ensure that all plant leaders monitor and administer QAD program, insisting on accurate, complete and timely data.
* Conduct timely and accurate employee survey ensuring that action plan(s) are established and completed.
* Ensure that machinery is in good repair and properly calibrated.
* Monitor and administer SQF and HACCP programs, insisting on accurate, complete and timely compliance.
* Encourage safety by insisting on a clean safe working environment, and that all employees are following prescribed safety procedures, including personal protective equipment.
* Monitor and control expenses by aggressively managing supply and other budget areas including payroll and overtime.
* Have a working knowledge of all jobs in area of responsibility.
* Follow established programs, policies, and practices to produce safe quality foods that meet regulatory and company requirements.
* Support the development, implementation, maintenance, and ongoing improvement of the SQF 2000 Systems.
* Informs Executive Team of any food safety, employee safety or quality issues or of any processes which have become non-compliant with specified requirements.
* Follow established programs, policies, and practices to produce safe quality foods that meet regulatory and company requirements.
* Maintain accountability the operation’s Food Safety and Quality Principles.
* Support the development, implementation, maintenance, and ongoing improvement of the SQF 2000 Systems.
* Informs Management of any food safety or quality issues or of any processes which have become non-compliant with specified requirements.

**Required Skills**

* Bachelor’s Degree in Engineering, Business or related field highly desired.
* 7-10 years operations experience required, peanut shelling preferred.
* 2-3 years in manufacturing maintenance plant maintenance operations.
* 3-5 years project management experience in a processing industry.
* Must have working knowledge of Food Safety and Regulatory business standards, practices, policies, procedures and state and federal laws and regulations including but not limited to HACCP, GMP’s, SSOP’s, OSHA and Labor Laws.
* Microsoft Office computer software applications at a medium to expert user level.
* Must have knowledge and understanding food manufacturing, specifically meat manufacturing processing and packaging equipment including but not limited to:  high speed vertical and horizontal form fed bagging machines, statistical scaling machines, tumblers, conveyors, ovens, slicers and refrigeration systems.
* Advanced knowledge of Statistical Process Control.

**Sales Manager**

***Essential Job Functions and Accountabilities:***

The candidate will be expected to develop and execute a successful marketing strategy to sell shelled peanuts domestically and internationally. Manage sales growth by analyzing trends, creating new business opportunities through a keen understanding of customer needs. Recruit, hire and train a dynamic successful sales force to enable execution of the strategy. Develop new team members through individualized coaching, counseling and training. Identify and focus on Key Account Development while executing and growing new account platforms.

Work with all levels of a customers’ organization in the protein segments to support our account acquisition, product penetration and account retention strategies. Will work closely with other facility professional, including finance, marketing, research and development, as well as with other support personnel to develop solutions to unique customer needs. You will develop regional and territory sales targets.

Knowledge of Regulatory Agencies and various programs: (HACCP, ISO-22,000, GFSI, SQF, BRC etc.).

***Educational Qualifications and Experience:***

* Bachelor's Degree in Business, Biology, Chemistry or Food Science preferred. A solid work history in the Food Processing Industry may be accepted, experience in peanut shelling preferred.
* Significant work experience in Food Processing industry is required.
* General knowledge regarding the workings of a food plant is important while Quality Assurance/Quality Control (QA/QC) or plant sanitation experience would be a major plus.
* Working knowledge of Microsoft Office Suite is expected
* Mechanical aptitude: Must be willing and able to install/troubleshoot dispensing equipment (training will be provided).
* Must have a proven record of accomplishment within the Food Processing Industry.
* Must also have experience in successful team development

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| **General Accounting Manager**  The Accounting Manager will be required manage all areas relating to accounting functions including general preparation, A/P, A/C, financial reporting, payroll, inventory control, year-end audit preparation and de support of budget and forecast activities:  Management  1. Supervise accounting staff by recruiting, hiring and training employees 2. Maintain a documented system of accounting policies and procedures 3. Ensure that accounts payable are paid in a timely manner 4. Ensure that all reasonable discounts are taken on accounts payable 1. Ensure that accounts receivable are collected promptly 2. Process payroll in a timely manner 3. Ensure that periodic bank reconciliations are completed 4. Ensure that required receivables are made on a timely basis 5. Maintain the chart of accounts and general ledger system 6. Maintain an orderly accounting filing system 7. Preparing and/or reviewing appropriate ledger entries and reconciliations  Reporting  1. Issue timely and complete financial statements - Daily, Weekly and Monthly. 2. Calculate and report financial and operating metrics. 3. Prepare and assist the preparation of the company annual financial statements and tax reporting. 4. Prepare and assist in the preparation of the monthly and annual budget and forecasts 5. Calculate variances from the budget and report significant issues to management 6. Provide for a system of management cost reports 7. Provide financial analysis as needed  Compliance  1. Comply with local, state, and federal government reporting requirements and tax filings 2. Reconciling control accounts, such as the sales journal with the aggregate of the individual debtors' accounts 3. Completing preliminary internal control questionnaire, risk assessment and review of risk areas 4. Preparing monthly balance sheet, income and financial statement and changes in financial position/budget variance analysis 5. Maintaining and reconciling fixed assets schedules  Desired Qualifications:   * Bachelor's degree in accounting * 5 years of progressively hands-on experience. * Certified Public Accountant or Certified Management Accountant designations desired. * Ability to work with limited supervision. * Exceptional initiative and ability to take ownership in projects. * Strong interpersonal skills. * Excellent academic and professional track record. * Ability to act and react in a flexible, fast paced environment. * Bilingual (English-Spanish) |

**Peanut Procurement Manager**

*Job Responsibilities:*The Procurement Manager role enables the individual to become familiar with the workflow of the operations, and to develop knowledge of meat processing production, including food safety and overall production management. The manager will be skilled in a number of areas, skills, and knowledge necessary to succeed in a procurement leadership role. As the procurement manager, you need to understand food processing production, including process flow, yields, variances, USDA regulations and requirements, accounting, and information technologies. In addition, you will need to have the necessary tools to effectively schedule daily production, maintain an inventory, and purchase peanuts from area producers. 

This role involves physical activity in agricultural processing environments which generally requires a moderate amount of exertion on a fairly regular basis – involving bending, stooping, squatting, twisting, reaching, working on irregular surfaces, occasional lifting of objects weighing over 50 pounds and frequent lifting of 10-25 pounds. The work may also involve other exertions, conditions or exposures (i.e. - heat, cold, dust, etc.).

**There are additional positions that will be identified and hired by these key people.**

**V.** Economic Contribution

In looking at the economic contribution of a project or industry, output is defined as the value of all sales transactions in the economy; employment is the number of part-time and full-time jobs in the economy while average wages and benefits are income for these jobs. Value added is equal to sales less the costs of purchased inputs (Shaffer, Deller, and Marcouiller 2004). Value added for the region is equivalent to the term gross state product.

**Methodology**

Economic impacts demonstrate the role of a project or industry through multiplier effect that begins with input expenditures stimulating business to business spending, personal income, and employment. This analysis uses estimated data from the exemplary stabilized year of operations of the facility, as proposed in this analysis. This can be estimated with input-output models (IMPLAN) that separate the economy into various industrial sectors such as agriculture, construction, manufacturing, trade, and services. The input-output model then calculates the role that an industry comprises within the economy, expressed in terms of direct and indirect effects and are interpreted as the contribution of the enterprise to the total economy. Direct and indirect effects represent the role of the industry and other industries that supply inputs to the directly affected sector. Induced effects are the changes in household spending due to changes in economic activity generated by other effects. Thus, the total economic contribution or role is the sum of direct, indirect, and induced effects.

Jobs calculated within an IMPLAN industrial sector are not limited to whole numbers and fractional amounts represent additional hours worked without an additional employee. With no measure of hours involved in employment impacts, IMPLAN summations for industrial sectors which include fractional employment represent both jobs and job equivalents. Since employment may result from some employees working additional hours in existing jobs, instead of terming indirect employment impacts as “creating” jobs, a more accurate term is “involving” jobs or job equivalents. It is also important to note that this type of analysis does not include cost/benefit analysis, net economic benefit, or social benefits resulting from the project.

**Economic Impacts**

*Black County*

Economic impacts to the Black County economy due to construction are presented in the following table.[[4]](#footnote-4) We find that capital costs of $40.2 million results in an output impact of $57 million, and would account for employment of 558.4 jobs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Impact Type | Employment | Labor Income\* | Value Added | Output |
| Direct Effect | 412.4 | $14,451,401 | $14,627,725 | $40,200,000 |
| Indirect Effect | 56.0 | $2,278,864 | $3,799,268 | $7,706,410 |
| Induced Effect | 90.0 | $2,492,545 | $4,875,759 | $9,047,733 |
| Total Effect | 558.4 | $19,222,809 | $23,302,752 | $56,954,143 |

Calculations by CAED using IMPLAN Group, Inc., IMPLAN System ( data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078. [www.implan.com](http://www.implan.com). \*Includes proprietor’s income.

Economic impacts to the Black County economy due to annual operations for shelling 69,300 tons are presented in the following table. We find that direct output impact of $47.5 million in the following table is equal to the value of annual sales/revenue, with the entire contribution in terms of the economy of $54.1 million. Labor income impacts account for total labor income contribution of $5.3 million, representing 56 direct jobs and a total of 108.8 jobs in the economy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Impact Type | Employment | Labor Income\* | Value Added | Output |
| Direct Effect | 56.0 | $3,020,783 | $5,735,494 | $47,461,087 |
| Indirect Effect | 27.8 | $1,601,602 | $2,186,787 | $4,160,735 |
| Induced Effect | 25.0 | $690,908 | $1,352,794 | $2,510,838 |
| Total Effect | 108.8 | $5,313,293 | $9,275,075 | $54,132,661 |

Calculations by CAED using IMPLAN Group, Inc., IMPLAN System ( data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078. [www.implan.com](http://www.implan.com). \*Includes proprietor’s income.

Economic impacts to the Black County economy due to annual operations for shelling 104,000 tons are presented in the following table. We find that direct output impact of $71.2 million in the following table is equal to the value of annual sales/revenue, with the entire contribution in terms of the economy of $80.7 million. Labor income impacts account for total labor income contribution of $6.9 million, representing 56 direct jobs and a total of 130 jobs in the economy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Impact Type | Employment | Labor Income\* | Value Added | Output |
| Direct Effect | 56.0 | $3,563,674 | $7,635,741 | $71,191,631 |
| Indirect Effect | 41.7 | $2,402,403 | $3,280,181 | $6,241,103 |
| Induced Effect | 32.3 | $892,421 | $1,747,723 | $3,243,992 |
| Total Effect | 130.0 | $6,858,499 | $12,663,645 | $80,676,726 |

Calculations by CAED using IMPLAN Group, Inc., IMPLAN System ( data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078. [www.implan.com](http://www.implan.com). \*Includes proprietor’s income.

*Black County Region*

Economic impacts to the Black County regional economy due to construction are presented in the following table.[[5]](#footnote-5) We find that capital costs of $40.2 million results in an output impact of $54.6 million, and would account for employment of 541 jobs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Impact Type | Employment | Labor Income\* | Value Added | Output |
| Direct Effect | 416.0 | $14,226,201 | $14,404,068 | $40,200,000 |
| Indirect Effect | 50.7 | $2,045,505 | $3,350,259 | $6,589,264 |
| Induced Effect | 74.6 | $2,091,267 | $4,390,393 | $7,774,091 |
| Total Effect | 541.3 | $18,362,974 | $22,144,719 | $54,563,355 |

Calculations by CAED using IMPLAN Group, Inc., IMPLAN System ( data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078. [www.implan.com](http://www.implan.com). \*Includes proprietor’s income.

Economic impacts to the Black County regional economy due to annual operations for shelling 69,300 tons are presented in the following table. We find that direct output impact of $47.5 million in the following table is equal to the value of annual sales/revenue, with the entire contribution in terms of the economy of $54.5 million. Labor income impacts account for total labor income contribution of $4.7 million, representing 56 direct jobs and a total of 100 jobs in the economy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Impact Type | Employment | Labor Income\* | Value Added | Output |
| Direct Effect | 56.0 | $3,020,783 | $5,394,754 | $47,461,087 |
| Indirect Effect | 24.8 | $1,158,020 | $1,894,771 | $4,997,410 |
| Induced Effect | 19.3 | $540,468 | $1,134,450 | $2,008,933 |
| Total Effect | 100.1 | $4,719,271 | $8,423,975 | $54,467,431 |

Calculations by CAED using IMPLAN Group, Inc., IMPLAN System ( data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078. [www.implan.com](http://www.implan.com). \*Includes proprietor’s income.

Economic impacts to the Black County regional economy due to annual operations for shelling 104,000 tons are presented in the following table. We find that direct output impact of $71.2 million in the following table is equal to the value of annual sales/revenue, with the entire contribution in terms of the economy of $81.2 million. Labor income impacts account for total labor income contribution of $6.0 million, representing 56 direct jobs and a total of 117.7 jobs in the economy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Impact Type | Employment | Labor Income | Value Added | Output |
| Direct Effect | 56.0 | $3,563,674 | $7,124,631 | $71,191,631 |
| Indirect Effect | 37.2 | $1,737,031 | $2,842,157 | $7,496,116 |
| Induced Effect | 24.5 | $686,678 | $1,441,280 | $2,552,333 |
| Total Effect | 117.7 | $5,987,383 | $11,408,067 | $81,240,079 |

Calculations by CAED using IMPLAN Group, Inc., IMPLAN System ( data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078. [www.implan.com](http://www.implan.com). \*Includes proprietor’s income.

**References**

Shaffer, Deller, and Marcouiller. 2004. *Community Economics – Linking Theory and Practice, 2nd Edition.* Blackwell Publishing, Ames, IA.

1. IBISWorld Industry Report 0D4630 [↑](#footnote-ref-1)
2. IBISWorld Industry Report 31191 [↑](#footnote-ref-2)
3. IBISWorld Industry Report 31134 [↑](#footnote-ref-3)
4. All tables are in 2013 dollars. These impacts would vary depending on the proportion of inputs purchased within the county. For the purposes of this study, all purchases will be purchased locally. Figures represent annual impacts. [↑](#footnote-ref-4)
5. The Black regional economy is defined in this instance as Ben Hill, Coffee, Crisp, Dodge, Dooly, Houston, Irwin, Lee, Macon Pulaski, Sumter, Tift, Turner, Wilcox, and Worth counties. [↑](#footnote-ref-5)