

Enterprise Budget Background and Key Assumptions

Farmers Market Destination Analysis: Processed Shrimp

Background

One way to price a product is to determine what a consumer is willing to pay for that product. Another method is to determine the costs per unit produced (or in this case, costs per unit delivered), which allows an operator to ascertain if he or she can sell a product for a profit. A prospective operator can use an enterprise budget to conduct such an analysis. An enterprise budget allows a user to estimate the costs, revenues and overall profitability of an enterprise. In order to assess the economic feasibility of providing a headless shell on shrimp (HSOS) product to a farmers market in the Atlanta-area from the vicinity of the Darien/Brunswick area, an enterprise budget is constructed to provide estimates of the weekly and seasonal costs per pound associated with this business activity.

The estimation of variable and fixed costs for a prospective operator allows one to calculate breakeven prices per pound for a HSOS product sold at a farmers market. Breakeven prices imply zero profit because they exactly cover the variable cost or total cost of delivering a HSOS product to the market destination. As such, breakeven prices are starting points for a potential operator to begin to understand how much above their wholesale/dockside price they would have to sell their HSOS product for in a farmers market in order to see a profit. It is important to note that the breakeven prices are calculated prior to taxes, which will vary depending on specific characteristics of the operator.

The enterprise budget itself is created in Microsoft Excel, a program that is readily available to most end-users. There are a number of assumptions associated with the projections of costs and revenues for this type of enterprise. The following sections describe the key assumptions. Using the baseline parameters, this report identifies the breakeven prices for a prospective operator under a weekly and seasonal time horizon. In order to allow individual users the ability to tailor this decision making tool to his or her specific circumstances, the user can change many of the key assumptions of this enterprise budget. Any cell that is shaded green can be changed, and the

spreadsheet is designed to dynamically update values in subsequent fields via embedded formulas. In order to protect the embedded formulas, the worksheets are password protected. A user can only change the green cells when the worksheet is protected. To disable this feature, go to “Review” and then select the “Unprotect Sheet” button. The password is ‘money’.

General Assumptions

Round Weight & Processed Weight

The default assumption for the quantity of product purchased at the docks by a prospective operator is 1000 pounds per week (round weight). This variable can be adjusted to any quantity of product sold weekly. In the case of an operator selling into a farmers market, it is assumed that the product is headed, shell on shrimp (HSOS). As such, the round weight of the product is converted to a processed weight within the spreadsheet (with an assumed 40% yield loss for HSOS). The quantity of processed pounds per week is further broken down into the quantity of processed pounds delivered per number of trips from the shore to Atlanta-area farmers markets per week. Users may want to target more than one farmers market across consecutive days and the enterprise budget accounts for both the capacity required to do this (number of coolers, ice and product required per trip) and also the cost of multiple trips, including spending a night in the Atlanta-area per trip.

Number of Trips per Week Desired vs Number of Trips per Week Needed

The user can input the desired number of trips to a farmers market per week. Within the spreadsheet, a calculation is made to ensure that the truck and coolers have the capacity to deliver the desired quantity of product and required pounds of ice per week. The maximum number of pounds delivered per week is 1050. Any amount above that requires an additional trip. The calculation for the number of trips needed per week is shaded in red to help the user identify if he or she can accomplish his or her delivery goals.

Season length

The assumed season length is 28 weeks. This variable can be adjusted up or down depending on the preference and assumptions of the operator. White shrimp landings occur throughout the year, but are greatest during the months of May-December, hence 28 weeks was chosen as the baseline

parameter. Also, the season length was assumed based on the fact that some farmers markets operate year round while others are open for as few as 17 weeks. For those that are not open year round, many end their season in mid to late December. More information about the seasonal accessibility of farmers markets is available in the Appendix.

Variable Costs

Transportation Costs

The two main variable costs are transportation costs and processing costs. The miles driven to and from the market destination are calculated both weekly and for an entire season. There is also an estimate of the number of miles driven within the Atlanta area to capture the miles driven to and from a place of lodging and to and from the farmers market(s). The cost per mile driven can be calculated one of two ways, by either using a standard mileage rate or by calculating actual car expenses per mile driven. The standard mileage rate for business use of a vehicle is based on an annual study of the fixed and variable costs of operating an automobile as calculated by the General Services Administration (GSA). For tax purposes, taxpayers always have the option of calculating the actual costs of using their vehicle rather than using the standard mileage rates¹. If you also use your vehicle for personal use, you must prorate your annual automobile expenses by the amount of your personal use of the vehicle. For this reason, it is more straightforward to use the standard mileage deduction in this enterprise budget to approximate the cost per mile driven. In order to create a more personalized analysis, the actual automobile cost per mile should be estimated and compared to the standard rate. Based on the baseline parameters, the approximate actual vehicle operating costs for a season on a per mile basis were less than the standard deduction rate (35 cents vs 54 cents). In order to provide a more conservative estimate of transportation costs, the higher standard deduction rate per mile was used in this analysis. A separate tab is provided within the spreadsheet to assist operators with estimating actual expenses in order to compare that cost per mile to the standard deduction rate.

Another related transportation expense is the cost of spending a night in the Atlanta area. Given the approximate 600 mile round trip, it isn't time effective to drive from the coast to the Atlanta

¹ Source: IRS Publication 463 <https://www.irs.gov/publications/p463/ch04.html>

area, deliver product and drive back in the same day. Further, spending a night in the Atlanta area allows the operator to sell product at another farmers market the following day. In order to approximate lodging costs and meals away from the home, the GSA per diem rate for lodging and meals and incidental expenses (M&IE) are used for the Atlanta area which includes the counties of Fulton, Dekalb, and Cobb². The lodging rate is \$138 per night and the M&IE is \$69 per day, and when prorated by 75%, is \$52 per day. As mandated for all federal employees traveling on official business, the first and last calendar day of travel are reimbursed at 75% of the Meals and Incidental Expenses (M&IE) for that area³. This proration is used in the enterprise budget calculations. Certainly, an operator can incur costs that are lower than the \$138 per night and \$52 per day for lodging and M&IE; however these figures provide an upper bound on what would be considered reasonable charges for that particular part of the state as determined by the federal government.

Processing Costs

The other major variable cost component is the cost of processing the product for sale. In the case of the product being sold in a farmers market, the product must be headed, bagged and labeled prior to arrival, per Georgia Department of Agriculture regulations. Assuming that the product form to be sold in a farmers market is a fresh HSOS product, the operator must provide enough ice to preserve the quality of the product and a common assumption is a 60/40 split between the pounds of fish and pounds of ice⁴. Combining the amount of ice required with an estimated cost per pound for the ice gives an estimate of the cost of icing the product. The product itself must also be headed and sorted into individual bags for sale at the farmers market. In order to accomplish this task, Ziplock or Hefty sealable bags can be used to package the HSOS product⁵. Assuming that an operator wants to sell one pound bags of HSOS at a farmers market, he or she could use an appropriately sized sealable bag, which in the case of one pound of HSOS shrimp

² Source: GSA FY2016 Per Diem Rates for Georgia <http://www.gsa.gov/portal/category/100120> and GSA FY2016 Meals and Incidental Expenses (M&IE) Breakdown <http://www.gsa.gov/portal/content/101518>

³ Source: GSA FY2016 Meals and Incidental Expenses (M&IE) Breakdown <http://www.gsa.gov/portal/content/101518>

⁴ Riepe, J.R. 1997. Enterprise Budgets for Yellow Perch Production in Cages and Ponds in the North Central Region, 1994/95. Technical Bulletin Series #111. Department of Agricultural Economics, School of Agriculture, Purdue University.

⁵ Ziploc Slider Storage Bags can be purchased in bulk (160 ct) from a vendor like BJ's at a rate (.07 cents/bag) that is lower than the same product that is typically sold to household consumers in smaller quantities.

would be a one quart freezer bag⁶. The time for a laborer to head, sort and weight and seal up the product into individual bags needs to be estimated. It is assumed that a laborer can process 100 pounds of shrimp an hour⁷. Assuming an hourly wage rate of \$7.25, which corresponds to the federal minimum wage rate, one can calculate the total labor costs for processing the product.

Fixed Costs

The assumed fixed costs for an operator include a pickup truck with an eight foot cargo bed, a digital scale and coolers to transport the product. The assumed pickup truck is a 2016 Ford F150 with an eight foot cargo bed with a starting MSRP of \$26,540. The depreciation, taxes, repairs and maintenance, and fuel costs are not provided because the standard mileage rate is used instead of calculating actual costs per mile. See the discussion above in the Variable Costs sections for more information about the standard mileage rate.

The number of coolers needed for an operator is a function of the number of pounds of product moved per week. Again, based on the assumption of a 60/40 split between pounds of product and pounds of ice, it is further assumed that one pound of ice and product are equal to approximately 1 quart⁸. It is assumed that an operator is purchasing a Coleman 150 quart marine grade cooler(s)⁹. The assumed number of processed pounds delivered per week dictates the number of coolers needed per trip. Given an eight foot cargo bed, it is assumed that at most, seven Coleman coolers could be transported at one time. A digital scale is required to appropriately weight the product into one pound increments. Depreciation for both the scale and cooler(s) is estimated assuming five years of useful life and a zero salvage value. Interest charges are treated as a fixed cost and are included regardless of whether a loan was required to finance the purchase or if the operator's personal funds were used. The reason for this is that operator's funds could have been used in some other use, and thus have an opportunity cost that is reflected by the interest charge. If the purchase was financed via a loan, then the interest charges account for the cost of borrowing that money. The interest on the fixed capital is estimated by taking the initial investment plus the

⁶<http://www.freshfromflorida.com/Divisions-Offices/Marketing-and-Development/Consumer-Resources/Buy-Fresh-From-Florida/Seafood-Products/Shrimp/About-Shrimp>

⁷ Source: Henry, M., Barkley, D. Vinuya, F., and B. Gantt. 2005. Options for Processing Shrimp Landed in South Carolina. Clemson University Research Report 01-2002-02.

⁸ Source: Louisiana Direct Seafood Handbook <http://louisianadirectseafood.com/handbook>

⁹ Source: <http://www.coleman.com/150-quart-white-marine-cooler/3000001525.html>

estimated salvage value of the capital items, divided by two.¹⁰ This number is then multiplied by an interest rate, which was assumed to be 4% given current prevailing interest rates in 2016. Product liability insurance for the operator is assumed to be \$200 per year. Finally, the cost to join a farmers market ranges depending on the location and time of year. Some farmers markets operate year round while others have a limited season length. While the rates per farmers market vary, it is assumed that the cost per week is \$25 per farmers market, which is a common rate for farmers markets in the Atlanta-area. If an operator is assumed to attend more than one farmers market, then this cost can be adjusted accordingly. A breakdown of farmers market fees is available as an Appendix to this document.

Results

The culmination of this analysis is a set of breakeven prices per pound of product delivered to the market destination per week. The baseline assumptions underlying the results presented below include the cost of transporting the product to and from the coast to Atlanta, the cost (and yield loss) of providing a headed, shell on shrimp (HSOS) product including the labor, labeled bags, ice and coolers necessary to transport the product, and the cost of participating in a weekly farmers market for 28 weeks. Additionally, the breakeven prices are calculated assuming that 10% of the product goes unsold.

As the quantity of delivered product increases (or also as the season length increases), the breakeven prices decrease, as the variable and fixed costs are spread over more pounds of product. As stated at the outset, the enterprise budget framework is designed to help individuals evaluate the tradeoffs associated with different levels of production and assumed costs of production. The enterprise budget is designed to allow individual users the ability to tailor this decision making tool to his or her specific circumstances. The breakeven prices are starting points for a potential operator to begin to understand how much above their wholesale/dockside price they would have to sell their product in Atlanta-area farmers markets in order to see a profit.

¹⁰ Carkner, R. 2000. Using Enterprise Budgets to Make Decisions about Your Farm. Farming West of the Cascades. Publication PNW0535. Washington State University.

Total Sold Product Per Week (based on 10% shrink of processed product)	135lbs	270lbs	540lbs
Breakeven Price per pound (to cover variable costs)	\$5.03	\$2.74	\$1.60
Breakeven Price per pound (to cover fixed costs)	\$0.28	\$0.14	\$0.08
Breakeven Price per pound (to cover total cost)	\$5.31	\$2.88	\$1.68

Another way of looking at profitability is to compare the expected revenues to expected costs for an operating season (28 weeks). Based on the willingness to pay research conducted via surveys at Atlanta-area farmers markets, consumers indicated that they would be willing to pay \$20.53 per pound for wild caught Georgia shrimp. Assuming that an operator could sell 90% of his or her HSOS shrimp weekly, the expected revenues, costs and profits would be as follows. The table below is calculated assuming the shrink and price stated above. Users can change both the estimated shrink per week and the price paid by consumers in order to assess the profitability of the enterprise under different assumptions.

Total Sold Product Per Week (based on 10% shrink of processed product)	135lbs	270lbs	540lbs
Gross Revenue	\$77,603.40	\$155,206.80	\$310,413.60
Total Costs	\$20,047.82	\$21,799.52	\$25,329.92
Net Returns to Labor (Profit)	\$57,555.58	\$133,407.28	\$285,083.68

**Appendix:
FARMERS MARKET VENDOR FEES**

Snellville:

Number of Weeks	Booth Fee	Booth Fee with Electricity
Full Season (17 weeks)	\$180 (\$10.59 per week)	\$214 (2.00 per week for elec.)
10 weeks	\$120 (\$12 per week)	\$140 (2.00 per week for elec.)
4 weeks	\$60 (\$15 per week)	\$68 (2.00 per week for elec.)

Roswell:

Vendor Category	Rate/week	Pre-payment required	Details
Annual	\$20	½ or full season	Commit to entire season
Seasonal	\$25	Month	Commit to product season
Interval	\$25	Month	Commit to scheduled times

\$5.00 fee for using electricity each week

Beginning 2017, all NEW applicants must pay one-time registration fee of \$25.00

Clarkston:

Product Type	Rate/Week	Upfront Payment for the Month	Upfront Payment for the Season
Produce Vendors	\$15	\$50	\$300
Prepared Foods	\$20		\$10-25/month
Craft Vendors	\$25		\$120

Truly Living Well:

Location 1 - East Point: \$15 per week with an additional ONE TIME fee of \$30

Location 2 - Westside Provisions Farmers Market:

Vendor Type	Rate/Week
Returning Vendor	\$25.00
New Vendor	\$100 for week one, then +\$50/week (week 2-\$150, week 3-\$200, week 4-\$250, etc.)

Freedom Farmers Market:

Vendor Space	Rate/Week	Monthly Prepay	Full Season Prepay
10x10	\$25	\$23/week	\$20/week (total: \$820)
10x20	\$50	\$46/week	\$40/week (total: \$1640)

Grant Park:

Payment option one:

Vendor Type	Rate/Week
Returning Vendor	\$25.00
New Vendor	\$100 for week one, then +\$50/week (week 2-\$150, week 3-\$200, week 4-\$250, etc.)

Payment option two: (if accepted to vend with Community Farmers Markets)

Market	Rate/Week for farmer	Full Season Prepay for farmer	Rate/Week for non-farmer	Full Season Prepay for non-farmer
Grant Park	\$25	\$532	\$35	\$931

Peachtree:

Annual Peachtree Farmers market fee is \$150 (non-refundable). The payment can be made in 2 installments.

Additional one time \$75 application fee

Athens:

Vendor Type	Rate/Week
Full Season Vendor	\$600 for 37 weeks (payment plan available)
Associate Vendor	\$25 per week (must designate weeks)

Morningside:

Vendor Space	Rate/Week
10x10	\$25
10x15	\$50 (MUST commit to entire year)

One time \$30 application fee

\$30 annual membership fee