

Analyzing and Developing  
Marketing Strategies  
for Tennessee's  
Value-Added Agriculture

# Using Case Studies to Enhance Success

Federal  
State  
Marketing  
Improvement  
Program

## Winery



## Farm-Fresh Catfish Restaurant



## Value-Added Fruit Products



## Old- Fashioned Country Ham Products



# Using Case Studies to Enhance Success

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Rob Holland  
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# Foreword

Interest by Tennessee small farmers and agri-entrepreneurs in value-added products and enterprises has grown in recent years. To enhance the chances for success, these entrepreneurs must develop thorough marketing, management and production plans. However, proper business planning for new, value-added activities by small farmers and agri-entrepreneurs is often stifled by the lack of documented market information. An evaluation of related case studies and market research studies would be valuable, if not critical, to the success of these new agribusinesses.

Prior to this study, however, case studies and market development studies for value-added agribusinesses in Tennessee have not been readily available. Therefore, this project was conducted to develop a variety of case studies from existing value-added businesses in Tennessee.

This project was envisioned to produce a balanced outcome of decision-making information for those involved in, or planning to participate in, value-added agribusiness enterprises in Tennessee. Four successful value-added businesses were selected to be interviewed, representing four different value-added opportunities. Information from the interviews was summarized and is presented here as case study reports. As envisioned, the reports provide a general overview of the start-up, operating, regulatory, financial and marketing aspects of the businesses. The case studies also provided pivotal information on which the decision to conduct further, specific market development studies was made. Market development studies will be conducted for each of the value-added opportunities that the case study businesses represent. Separate reports and teaching tools will be developed and assembled for the market development phase of this project. The case study reports that follow should provide potential value-added agribusiness entrepreneurs with a good introduction to the considerations, operations and insights to starting, operating and developing a value-added agribusiness. These case studies are not intended to provide a recipe for operation, a blueprint for development or an allocation of costs for other businesses. These case studies are intended to provide an introduction to real concepts, issues and scenarios faced by value-added businesses.

These case studies will provide valuable information for value-added projects evaluated by and training sessions provided by the *Agricultural Development Center*. The reports are based on Tennessee business operators providing factual information. However, to protect the anonymity of the subjects, some information and data have been adjusted to protect the interviewee, although the applicability of the data has not been intentionally altered. Additional information regarding the topics discussed in the case studies or regarding assistance with other value-added agribusinesses in Tennessee may be obtained by contacting the Extension agent in your county, the *Agricultural Development Center* at (865) 974-3824 or [www.utextension.utk.edu/adc/](http://www.utextension.utk.edu/adc/) or the Tennessee Department of Agriculture Division of Marketing at (615) 837-5160 or [www.picktnproducts.org](http://www.picktnproducts.org).

# Project Goals & Objectives

Interest in value-added agricultural enterprises is growing in Tennessee. To explore this trend and meet the demands of agricultural producers in Tennessee, the *Agricultural Development Center* (ADC) at The University of Tennessee utilized a grant from the USDA Federal-State Marketing Improvement Program (FSMIP) through the Tennessee Department of Agriculture, Division of Marketing. The two-fold goals and objectives for this project were:

- 1) to analyze marketing strategies (by conducting case studies) of existing value-added agricultural business/enterprises, and
- 2) to develop successful marketing strategies (by implementing market research studies via survey instruments) for specific, potential, value-added agricultural businesses or enterprises in Tennessee.

The reports that follow represent a summary of the interviews conducted during the fall of 1999 of four existing value-added businesses. These reports were prepared to document specific industry details, identify the availability of market research information, identify problems and obstacles of existing marketing strategies, gather specific marketing information and document specific technical, operational and financial aspects of the business. These reports were used to develop the survey instrument for the market research study, and to determine the use, benefit and shortcomings of marketing and management strategies currently being utilized. They were also used to assess customer response to existing market outlets for value-added products/enterprises. A report on the findings of the four market development studies will be published under a separate title.

The case study interviews were conducted by the project's principal investigator. The businesses were contacted twice to explain the project and the role of their business in the study. A third call was made to verify participation and establish interview specifics (time, location and needed information). The interviews were conducted over the period of a day, with follow-up telephone interviews as necessary. The interview participants signed an "Informed Consent Form" detailing the goals of the study and the confidentiality of the participants. The primary instrument used to collect data from the study participants was a questionnaire. A similar outline was used for each business. Questions relating to industry specifics were added as necessary for each type of enterprise.

# The Process of Selecting the Case Study Subjects

Requests for nominations for case study cooperators (successful value-added agri-business entrepreneurs) were sent to some 70 Extension agents and specialists, project cooperators, industry leaders and agri-educators across the state. As a result of this call, 38 nominations were received from 22 nominators. The 38 nominations were reviewed by a five-member team of project cooperators.

Nominations were narrowed to five finalists and two alternates. The five finalists were contacted by a familiar representative (TDA Specialist, Extension specialist or county Extension agent) to seek cooperation. A follow-up confirmation of cooperation was made by a member of the ADC and details regarding the on-site interview were made by the principal investigator.

On-site interviews were planned and conducted by the principal investigator. On the day prior to one of the interviews, the business was destroyed by fire and the case study interview was canceled. Due to the timing of the loss of this project study, the decision was made to proceed with the project with only four case studies. The four case study businesses represented the following value-added enterprises: winery, catfish restaurant, value-added fruit products and country ham products. The locations of the four businesses are balanced across the state.

## Executive Summaries for Each Study

A one-page, bulleted executive summary for each of the four case studies has been prepared. These summaries provide a brief description of the business, a discussion of its start-up phase characteristics, marketing tactics and overall business pros and cons.

# The Winery

## *Description of Business*

- A Tennessee winery that produces wine primarily from Tennessee-grown grapes and/or grape juice.
- The business currently sells approximately 30,000 gallons (150,000 bottles) of wine each year.
- Ten types of wine are sold; the best sellers are sweet or semi-sweet white wines.

## *Ease of Start Up*

- Very difficult.
- High investment costs are associated with the wine industry.
- Entrepreneurs should have experience with viticulture and the wine making process.
- Many regulations affect the production and distribution of wine.
- Very tight market; hard to gain market share.

## *Range of Initial Investment*

- To start a winery producing approximately 25,000 gallons of wine, the initial investment is a minimum of \$500,000.

## *Time Commitment*

- Full-time

## *Can the Business Be Run From Home ?*

- No, regulations prevent the commercial production of wine from the home.

## *How to Market the Product*

- Most Tennessee wineries sell the majority of their products through their tasting rooms.
- Billboards, a location near a major road/highway and charitable events are all good means of promotion for Tennessee wineries.

## *The Pros*

- If interested in making wine, it can be very rewarding.
- Long-term profit potential is good.
- It is a growing industry in Tennessee.

## *The Cons*

- High investment cost; technical experience is absolutely necessary; many regulations and laws affect the production, sale and consumption of wine.

# The Country Ham

## *Description of Business*

- Restaurant that specializes in producing and selling slow-cured country hams.

## *Ease of Start-up*

- Difficult.
- High investment costs and beginning operating capital (annual operating costs \$500,000).
- Consumers' tastes have changed over the last decade to a lower-sodium, quick-cured ham.
- Some regulatory controls, primarily health concerns.

## *Range of Initial Investment*

- To start a ham-curing operation that can produce 11,000 hams per year, the minimum investment is estimated at \$245,000.

## *Time-Commitment*

- Full-time.

## *Can the Business Be Run From Home ?*

- No, regulations prevent the commercial production of food for human consumption from the home.

## *How to Market the Product*

- Primarily word of mouth.
- Large-scale print and/or television advertising at start-up to inform potential customers that the business is open.

## *The Pros*

- Decent profit potential in the long term.

## *The Cons*

- Large lag time between purchasing input and selling the final product.
- Changing consumers' tastes may mean that the product may not be in large enough demand to support the product.

# **The Restaurant**

## ***Description of Business***

- Restaurant that specializes in selling its own farm-raised catfish and Cajun/Creole dishes.

## ***Ease of Start-up***

- Can be difficult, depending on local restaurant competition. Some regulatory controls, primarily health concerns.

## ***Range of Initial Investment***

- To start a restaurant open four days a week, the minimum investment is estimated at \$36,000.

## ***Time-Commitment***

- Full-time or part-time; depends on restaurant's hours of operation.

## ***Can the Business Be Run From Home?***

- No, regulations prevent the commercial production of food for human consumption from the home.

## ***How to Market the Product***

- Word of mouth primarily, some large-scale print and/or television advertising at start-up to inform potential customers that the business is open.

## ***The Pros***

- Can be personally rewarding to own and operate a small restaurant that serves farm-raised catfish. Low labor costs.

## ***The Cons***

- Low profit potential. Long hours of preparation.

# The Fried Pie

## *Description of Business*

- Value-adding business that uses home-grown peaches and apples in the making of fried fruit pies, and also sells fresh fruit through an on-farm retail store.

## *Ease of Start-up*

- Can be hard to garner market share; large degree of competition from major national brands.
- Some regulatory controls, primarily health concerns.

## *Range of Initial Investment*

- To start a fried pie and fresh fruit processing and retail store, the minimum investment is estimated at \$190,000.

## *Time-Commitment*

- Full-time. A retail store requires a full-time commitment to satisfy customers.

## *Can the Business Be Run From Home?*

- No, regulations prevent the commercial production of food for human consumption from the home.
- With a suitable building, the business can be located on the farm premises.

## *How to Market the Product*

- Primarily word of mouth; increase consumer awareness at start-up by traveling to regional fairs and state parks.

## *The Pros*

- A value-adding activity that increases the profit potential for farm-grown commodities.
- Low input costs to the producer since the enterprise is using farm-grown fruit.

## *The Cons*

- Hard to enter into the market.
- Large time commitment at start-up to garner consumer awareness of product and to promote the product.



# Value-Added Case Study “The Winery”

**Federal-State Marketing Improvement Program**

**June 2000**

## **Overview of the Study**

A Tennessee winery was selected as one of four value-added agri-businesses to serve as the subject for a case study. A personal interview was conducted with the main proprietor of “The Winery” to document specific business and industry details, including technical, operational and financial parameters, marketing strategies and availability of marketing information. In addition to a winery, the businesses selected to serve as case studies include: fruit pies, ham curing and a catfish restaurant.

The documentation for “The Winery” case presented here is descriptive in nature, attempting to fully explore and explain all details of the industry to be studied. By describing how this businesses started and became successful, it is hoped that other entrepreneurs may be able to use the information to better investigate potential value-added agricultural enterprises.

The on-site case study interview was conducted by the project’s principal investigator. Specific details of the business are masked in this report to insure anonymity of the participants. The figures included in this report have been changed slightly to insure the confidentiality of the cooperator.

## **Tennessee Wine Industry**

In 1973, the Tennessee Viticulture and Oenological Society (TVOS) was organized by a group of individuals interested in wine making. This was the first such organization in Tennessee and it lead to an increased interest in wine making in Tennessee (TDA, 1999). Partly due to the efforts of TVOS, the Tennessee Grape and Wine Act (TCA 57-120 as amended by public charter no. 126) was signed into law in 1977 in an effort to promote Tennessee grape production. Before the enactment of the law, it was legal to make wine for home

consumption but illegal to make wine for sale. The law provides protection to Tennessee grape growers because it requires wineries to use a specified minimum percentage of Tennessee-grown grapes (or grape juice) as inputs. For a new winery, 50 percent of the grapes it uses per year must be grown in Tennessee. After three years of operation, the minimum percentage increases to 75 percent. However, a winery may obtain an annual waiver to use more out-of-state grapes if there are extenuating circumstances, such as low in-state production of certain varieties of grapes due to drought or other natural disasters. The

law helped insulate Tennessee producers from outside price pressures, thus protecting the infant industry from low commodity prices from competing states. If Tennessee wineries were not required to use a minimum percentage of grapes from in-state sources, they could buy grapes and/or grape juice from out-of-state growers at a lower price because other states have a comparative advantage in growing grapes. Reasons for lower out-of-state grape prices include: economies of size, better climates and established vineyards. As a direct result of the Grape and Wine Act, Tennessee grape production increased.

Before the enactment of the Grape and Wine Act in 1977, there were virtually no grapes in production (commercial or non-commercial) and no commercial wineries in Tennessee. As of 1997, 395 acres of bearing grapes were in production (Pompelli, 1999). As of January 2000, 19 commercial wineries were licensed in Tennessee and listed on the Tennessee Department of Agriculture Market Development Website (TDA, 1999). It takes several years (depending on the variety) for grape vines to bear productively. For comparison, California had 668,000 acres in production and 307 wineries in 1997. The next largest wine-grape producing state was Washington, with 37,000 bearing acres in 1997.

Since 1992, the amount of wine stocks in Tennessee, both bottled and bulk, has remained relatively stable at approximately 100,000 gallons. Wine stocks include bottled wine, which has not been sold, and bulk wine, which is finished but not bottled. In comparison, California produces around 31,738,586 gallons per year. However, farm winery sales in Tennessee almost doubled between 1992 and 1997, to a total of 111,000 gallons (Pompelli, 1998).

## Considerations Before Starting a Winery<sup>1</sup>

Before starting a winery, the entrepreneur should consider three very important questions. First, who are the likely consumers and what type of wine do they demand? Second, can the appropriate grapes be obtained for the type(s) of wine(s) to be produced? Third, can the wine be produced and sold profitably? If these questions cannot be answered, then the entrepreneur should probably re-evaluate the idea of starting a winery. These three questions are examined in more detail throughout the case study.

A winery requires substantial investment, often making it difficult for new businesses to succeed and emphasizing the need for understanding the production and marketing of wine. It is very important for the entrepreneur to develop a business plan as one of the first steps in the winery evaluation process. Because of the high investment cost of starting a winery, it will likely be necessary to finance a portion of the operation through outside sources. Outside funds are typically obtained from commercial banks, government agencies, finance companies or venture capitalists. Before outside lenders will consider loaning a business money, they require a business plan detailing the estimated costs and returns of the business in the short term and the long term. Lenders take business plans into consideration when evaluating loan applications.

The location of a winery can play an important role in the overall success of the business. While it might be romantic to have a secluded winery nestled in the mountains, it

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<sup>1</sup> Based on comments provided by the case study entrepreneur.

is not a very practical location for attracting large numbers of customers. The more difficult a winery is to find and get to, the less likely it is to attract customers. Major roads and interstate highways offer prime locations for a winery aiming to sell a large volume of its product through its tasting room. Being located near high-traffic roads provides exposure to many potential customers.

## **Business Overview**

The winery examined in this case study (hereafter referred to as “The Winery”) was started about 10 years ago. The proprietors desired to start a winery because of their life-long passion with wine. Turning grapes into wine through the value-added process of crushing and aging the juice allowed them to explore their hobby and passion and turn it into a valuable business. One of the proprietors had previous experience growing grapes and making wine. The main proprietor started by finding investors and obtaining the necessary permits for a winery in Tennessee. Their first bottle of wine was sold a year later.

The Winery has historically grown about a quarter acre of grapes, primarily for the atmosphere and customer expectations. The Winery made a conscious decision not to specialize in growing grapes for a couple of reasons. First, it takes several years for the vines to produce adequate quantities of grapes. Second, they wanted to focus their investment on the wine-making and marketing process. In determining where they were going to purchase the grapes needed for production, The Winery consulted with the Tennessee Department of Agriculture. The Tennessee Department of

Agriculture, Market Development Division distributes a list each summer of participating Tennessee wine-grape growers. This report includes estimated crop production per grower and prices per ton for the varieties grown. Before commencing operation, Tennessee wineries should contact growers about the availability of grapes. The Winery recommends that new wineries set up contracts with growers for specific amounts of grapes, price level, grape quality and how the grapes are harvested, handled and delivered.

The Winery is located on a state highway near a major interstate. Six large, lighted billboards (three in each direction) located before the exits to the state highway announce the presence of the winery to drivers from both directions. In 1997, the average daily traffic count at The Winery’s exit was 23,730 vehicles. The Winery relies on its visibility from the interstate and its billboards for its primary exposure to the public.

The Winery started with a production of 14,000 gallons of wine the first year and estimated increasing production approximately 10 percent per year<sup>2</sup>. It is important to note that the estimated increase in production was based on estimated increased sales over time. By starting with a low volume of production and expanding as sales increased, The Winery was able to buy additional equipment to expand its production capabilities without incurring more debt.

The Winery sells a large volume of its product (95 percent) through the tasting room directly to consumers. This allows a

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<sup>2</sup> Sales increased at least 10% per year. The Winery only increased production to match the increase in sales.

higher profit margin than if sales were to a wholesaler. When customers enter the tasting room, they are greeted by a friendly, knowledgeable staff. The customers can have a free sample of each of the wines that are produced. This allows customers to determine which wine they prefer without the risk of spending money on a product they don't like. While sampling has an associated cost, The Winery has found that free samples greatly increase sales, as customers are more likely to buy those wines they find they prefer. Customers must be 21 years of age to sample or purchase wine.

Many entrepreneurs do not realize that specialized insurance is needed to cover businesses that manufacture and sell alcoholic products. The Winery has a tasting room, so it is necessary for The Winery to have insurance coverage for any liability resulting from on-site consumption. The Winery is a member of the American Vintners Association (AVA). AVA offers an umbrella insurance plan that covers the winery premises. This coverage is offered through the AVA, but the actual insurance policy is written by various insurance companies. Membership in the AVA costs between \$250 and \$1,875 per year, depending on gross receipts, and allows wineries to obtain comprehensive insurance coverage at reduced rates. Liability insurance costs approximately \$6,500 per year for members of AVA, and this cost must be included in winery business plans.

### **The Start-up Phase**

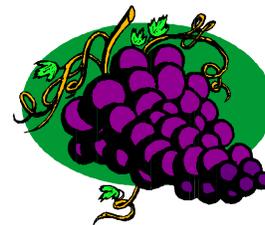
Start-up costs for a winery include the fixed assets needed to begin production. However, the necessary start-up items will vary from business to business based on

specifics such as the type of wine produced, location and facility design. Table 1 provides detailed information and cost estimates for fixed asset investment costs.

The initial investment for The Winery is estimated at \$588,745 (in 1999 dollars). Start-up fixed asset costs are included for tanks, filtration unit, pumps, corker, washer/purger, crusher/de-stemmers, filler, presses, cooler, barrels, chill tanks, carts and tables, building and land. It is important to note that in addition to production and location specifics, start-up costs can vary significantly depending on whether new or used equipment is purchased.

Start-up costs for fixed assets can also vary significantly, depending on whether manual or automated bottling systems are to be used. Manual bottling systems involve the use of a washer/purger, a filler and a corker operated by employees. Automated systems require less labor, as all parts of the bottling operation are done by the machine. Automated systems are very expensive (est. \$45,000) and generally not necessary for small wineries (under 200,000 bottles annually).

Four or five people working on a manual bottling line should be able to bottle approximately 300 cases (12 bottles per case) in an eight-hour work day, or approximately 150,000 bottles (30,000 gallons) annually.



<b>TABLE 1: START-UP FIXED ASSET COST</b> (for 25,000 gallons of annual production capacity)			
<b>ITEM</b>	<b>QUANTITY</b>	<b>COST PER UNIT</b>	<b>TOTAL NEW COST</b>
Polyethylene tanks			
750-gallon tank	38	\$2,767.50	\$105,165.00
500-gallon tank	14	\$1,845.00	\$25,830.00
60-gallon tank	60	\$7.50	\$450.00
Filter unit	1	\$15,000.00	\$15,000.00
1" pumps	3	\$1,700.00	\$5,100.00
Corker	1	\$10,000.00	\$10,000.00
Washer/purger	1	\$1,000.00	\$1,000.00
Barrel washer	1	\$1,000.00	\$1,000.00
Small crusher/de-stemmer	1	\$1,200.00	\$1,200.00
Large crusher/de-stemmer	1	\$4,500.00	\$4,500.00
6-spout filler	1	\$1,500.00	\$1,500.00
Bladder press	2	\$2,000.00	\$4,000.00
Walk-in cooler (18' x 24')	1	\$4,000.00	\$4,000.00
American oak barrels	20	\$100.00	\$2,000.00
1000-gallon chill tanks	2	\$13,000.00	\$26,000.00
Carts, tables, misc*	1	\$2,000.00	\$2,000.00
<b>Total Equipment Cost</b>			<b>\$208,745.00</b>
<b>Land (3.7 acres)</b>			<b>\$260,000.00</b>
<b>Building (10,000 sq. ft.)</b>			<b>\$120,000.00</b>
<b>TOTAL START-UP COST</b>			<b>\$588,745.00</b>
<b>ANNUAL LOAN REPAYMENT</b>	<b>(10 years @ 9%)</b>		<b>\$91,738.00</b>

\* miscellaneous includes: lab equipment and hoses

The cost of land next to major interstates can be expensive. For the purposes of this study, the land value for The Winery is estimated to be \$70,300 per acre. The Winery is located near an interstate exit. The value of land will vary widely depending on its location of the. The Winery's 10,000 square foot building was purchased for \$120,000. The 10,000 square feet of space is adequate for operating a winery producing approximately 30,000 gallons of wine per year, with an accompanying tasting room. Start-up costs may be lowered by leasing land and buildings as an alternative to buying and/or constructing a facility.

The Winery's initial investment in excess of \$500,000 can be an obstacle for some would-be wine producers seeking to start a similar-sized business. One way in which The Winery lowered start-up costs was by purchasing polyethylene tanks instead of the more expensive stainless steel tanks for fermenting wine. Also, while the classic idea of aging and fermenting wine is in French oak barrels, these barrels are very expensive. Instead of French oak barrels, The Winery uses specialized wood pellets to achieve the same flavor characteristics of wood-barrel-aged wine. If wooden barrels are considered a necessity for the would-be wine producer, American oak barrels can be used and are substantially cheaper than the French oak barrels.

The loan repayment on the total start-up costs assumes a 10-year loan at 9 percent interest. To repay the total investment cost of \$588,743 plus interest at these terms requires a payment of \$91,738 per year for 10 years.

## Legal Issues

Many laws and regulations apply to Tennessee wineries. The Winery started gaining approval from various government agencies approximately a year in advance of expected production. One of the first hurdles the business had to address was getting local written approval to open and operate a winery. Local regulations vary from county to county and from city to city. The Winery checked with city, county and state officials about laws, regulations, zoning restrictions and statutes that applied to the local area, specifically regarding producing, selling and sampling alcoholic beverages like wine.

After The Winery gained local approval, it had to obtain a license from the Tennessee Alcohol and Beverage Commission (TABC). To apply for a license to produce wine from the TABC, the applicant must:

- 1) Complete an application for a winery license
- 2) Prove a right of possession of the proposed building
- 3) Give evidence as to legal form of business (sole proprietor, partnership, corporation, etc...)
- 4) Show proof of local approval for the winery
- 5) Complete a questionnaire for each owner, officer or partner
- 6) Obtain approval from the Tennessee Department of Agriculture, Regulatory Division, Food and Dairy Section

In addition to issuing the necessary license, the TABC enforces many other laws and regulations pertaining to producing, selling

and transporting alcoholic beverages. A potential wine producer should contact the TABC for a comprehensive list of these laws and request information on how to obtain the necessary license.

After the TABC granted the wine production and distribution license to The Winery, the next step was to obtain a federal bond from the Bureau of Alcohol, Tobacco and Firearms (BATF). There are many forms required by the BATF to operate a federally-bonded winery<sup>3</sup>. The number and type of forms vary depending on business structure, level of sales, level of production, size of the area to be considered “bonded” and size and type of bond to be issued by the BATF. For the necessary forms and complete information on all steps to be completed before operation of the winery commences, the BATF should be contacted at:

Bureau of Alcohol, Tobacco and Firearms  
8002 Federal Office Building  
550 Main Street  
Cincinnati, Ohio 45202-3263

Before the bond was issued to The Winery, the facility had to go through a food inspection, to insure that it would operate under appropriate food safety guidelines. The food safety inspection is conducted by the Tennessee Department of Agriculture,

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<sup>3</sup> Forms needed include: **Form 5120.25** Application to Establish & Operate Wine Premises. **Form 5100.24** Application for basic Permit under the FAA Act. **Form 5120.36** Bond for Bonded Wine Cellar or Bonded Winery. **Form 5000.29** Environmental Information. **Form 5000.30** Supplemental Information on Water Quality Considerations. Other forms may be necessary depending on business organization. Contact the BATF for details.

Regulatory Division.

The advice of The Winery is for potential wineries to start the process of obtaining the needed licenses, permits and the federal bond about a year in advance of the business’s opening to insure it is able to operate legally.

## Production

Before a winery is started, the would-be producer must decide what type of wine to produce. The best wine to produce is often determined by identifying the needs of the target market. However, the type of wine produced depends on the type of grape variety used. The Tennessee Grape and Wine Act requires a Tennessee winery to use a minimum percentage of grapes/ agricultural products (or grape juice) grown in Tennessee as inputs; therefore, the producer must determine if the required grape variety (or type of fruit product) can be acquired in sufficient quantity from Tennessee growers.

Based upon previous experience selling wine in Tennessee, the main proprietor of The Winery decided to primarily produce sweet and semi-sweet wines. The wine making process described in this case study is a broad overview of how to make wine. It is important to remember that the process of making wine varies greatly depending on the type of wine being produced. The Winery recommends that the would-be winemaker have extensive knowledge of the winemaking process for each type of wine to be produced and/or be able to hire someone with that knowledge. In the case of The Winery, the main proprietor has extensive knowledge of how to produce many different types of wine. However, he also hired an experienced

specialist in wine production to handle the day-to-day production.

The wine-making process starts with either the whole product or juice. Both types of inputs can be purchased, depending on the variety. The individual winemaker should determine which input is best suited for the specific enterprise. The Winery prefers to use grape juice, as it requires less labor and is cheaper and easier to transport. However, The Winery uses both grape juice and whole grapes in its wine-making business. Most out-of-state inputs are purchased by The Winery in the form of juice, while in-state inputs are the form of whole grapes. When whole grapes are used, they must first be crushed, de-stemmed and pressed. It takes approximately 34 labor hours to crush, de-stem and press eight tons of grapes and pump the juice into the primary fermentation tanks: two labor hours for set-up and preparation; 24 labor hours for crushing through pressing; and eight labor hours for clean up and to do juice adjustments. The labor for the crushing - pressing process requires six people, two of whom are seasonal workers only, and all steps are completed in a day.

In the case of red wine production, the grape skins remain in contact with the grape juice so the appropriate color and character can develop. Skin contact is not required for the production of white wines. Specific yeast cultures are added to the fermentation tank to induce fermentation. The type of yeast culture used depends partly on the type of wine being developed. Potassium metabisulfite ( $\text{SO}_2$ ) can also be added to help eliminate micro-organisms competing with the yeast to consume the sugar in the grape juice.

After a reasonable amount of sediment (or "lee's") collect in the bottom of

the tank, the juice is pumped, or "racked," into a secondary fermentation tank. By pumping the juice into secondary tanks, the grape pulp and other undesirable sediment that may have settled out during the primary fermentation are removed. The juice is allowed to finish fermenting in the secondary tanks. If a sweet wine is being produced, sugar must be added, as almost all of the natural sugars in the juice will have been used in the fermentation process. Racking the wine requires about two labor hours.

Before blending and bottling, the wine should be pumped into chill tanks for cold stabilization. The temperature of the wine should be reduced to 35 degrees for two weeks. The chill process helps finish the wine. Tartrates (the solid form of tartaric acid) will crystalize and settle to the bottom of the tank and other undesirable particles may also settle out. The solidification of tartrates helps to prevent unwanted sediment build-up in the finished product (a bottle of wine). After cold stabilization, the wine should be pumped into clean tanks to finish the process. This requires another two hours of labor at The Winery.

With the wine in a clean tank, the sugar level can be adjusted (if necessary) and there should be no live yeast remaining. If any blending of the wine is to be done, it is done next. The Winery blends some of their wines to obtain distinctive characteristics. Blending and coarse filtration require about four hours each. Finally, the wine is pumped through a membrane filter into a sterile tank for bottling. The bottles are prepared by washing with hot water at 180 degrees Fahrenheit and are then purged with nitrogen to clear any oxygen that may remain in the bottle; this helps prevent oxidation. At The Winery, four people contributing a total of

34 labor hours can complete 300 cases (3600 bottles) of wine.

## **Marketing**

During the early years of operation, The Winery produced five types of wine, which allowed them to target several different consumer tastes. The Winery has expanded its product line and now offers a total of 10 different wines. From previous experience in the Tennessee wine industry, The Winery expected that sweet and semi-sweet wines would sell the best in the Tennessee market. Therefore, most of their wines are semi-sweet or sweet wines; experience has shown that these types of wine do indeed sell very well in Tennessee.

The Winery has had a lot of success marketing their wines through their tasting room. Approximately 95 percent of their sales are through the tasting room, while the remaining 5 percent is represented by wholesale sales. The wholesale market has slowly increased over the years due to rising demand from consumers who first purchased the wine at The Winery and now want to purchase the wines locally. Wine sold on the wholesale market is priced at about 40 percent of retail prices. As a result of the latest amendment to the Grape and Wine Act, wineries that desire to sell at retail more than 20,000 and not over 40,000 gallons of wine per year must receive permission from the TABC and make their wine available to wholesale distributors. The wholesale market is driven by consumer demand (customers who visit a winery will often ask their local wine dealers to carry a farm winery wine).

During the first few years of operation, The Winery entered various wine

competitions, hoping to increase public awareness of its wines and to gain recognition. The company found that the cost and time requirements were prohibitive and it experienced very little consumer feedback (entry fees are typically \$20 to \$50 per wine entered, plus the cost of transporting the wine and the cost of the wine itself; total cost can run as high as several hundred dollars per contest). This was also the case with newspaper advertisements, with very little positive consumer feedback relative to expenses incurred.

To increase the business's exposure to potential customers on the interstate, The Winery maintains six large billboards at a cost of approximately \$6,000 each annually. The Winery does not use any television or print advertisements, though brochures and business cards are given to customers in the tasting room. The total annual marketing budget for The Winery is \$36,000. The most crucial part of The Winery's marketing success has been positive word-of-mouth comments. Therefore, it is essential to the success of The Winery that customers who visit the premises have an enjoyable experience. While word-of-mouth is free advertising for the business, it can be both good and bad. If customers have a good experience at The Winery, the company hopes they will share their experience with others.

The Winery also contributes wine for charitable events, including everything from fund-raisers for non-profit organizations to the openings of art shows and playhouses. The organization to whom they donate the wine, usually one or two cases, allows The Winery to pass out promotional brochures and flyers and recognizes The Winery for donating the wine. The Winery has received

many positive consumer comments from these events.

The Winery's highest volume of sales is after Labor Day through early January. The period between Thanksgiving and Christmas is the largest one-month period of sales during the year.

According to a 1994 study by The University of Tennessee Department of Agricultural Economics<sup>4</sup>, the average Tennessee farm winery visitor could be described by the following:

- ▶ 50% were 45 years of age and older
- ▶ 56% were college graduates
- ▶ 79% were married
- ▶ 75% were employed
- ▶ 56% had annual incomes in excess of \$50,000
- ▶ primarily Caucasian (93%)
- ▶ only two people in the household (59% reported no minor children under 18 years of age)

This profile of the average Tennessee farm winery consumer is consistent with The Winery's target customer. The Winery refers to "The Three M's" to describe their customer profile: Mature, Mobile and Money. The Winery's predominate target market is older, with a large enough disposable income to afford leisure travel and to buy wine. The implication for new wineries would be to target this customer profile and develop wines that target older, more educated consumers.

their per-unit cost of production. This allows prices to be determined to meet the goals of the business. If product costs exceed selling prices, the business will lose money. It sounds simple, but if a business does not know how much it costs to make a product, the price may not be set high enough to cover costs. Table 2 shows the average variable cost to produce a 750 ml bottle of wine at The Winery. The Winery is able to achieve a high profit margin by selling direct to end consumers at an average price of \$7.50 per bottle (approximately a 280 percent mark-up). This price is consistent with nation-wide prices for a 750 ml bottle of wine.



## Financial Analysis

It is important for producers to know

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<sup>4</sup> Pompelli, 1994.

<b>Table 2: AVERAGE VARIABLE COST PER BOTTLE OF WINE</b>	
Juice	\$1.04
Flavor	\$0.02
Sugar	\$0.02
Labor	\$0.71
Utilities	\$0.02
Workers compensation and insurance	\$0.06
Bottles, corks, labels	\$0.60
Miscellaneous	\$0.07
Repairs and maintenance	\$0.13
<b>VARIABLE COST PER BOTTLE</b>	<b>\$2.64</b>

A break-even analysis can be used to determine wine sales needed to cover total costs (i.e. break-even) at a price of \$7.50 per bottle. Break-even analysis is based on two types of costs: fixed costs and variable costs. Fixed costs are overhead-type expenses that remain constant and do not change as the level of output changes. Variable costs are not constant and do change with the level of output (the cost of bottles and labeling for example). Three pieces of information are needed to evaluate a break-even point: average per-unit sales price, average per-unit variable cost and average annual fixed cost.

It has already been indicated that the average sales price for a bottle of Tennessee-produced wine at The Winery is \$7.50. Similarly, the average variable cost per bottle has been calculated (Table 2) as \$2.64. Table 3 presents the annual fixed costs for The Winery. To a certain extent, these costs will be incurred whether one bottle of wine or 100,000 bottles of wine are sold. According to Table 3, the annual cash-flow fixed costs for The Winery are estimated at \$268,838 and include expenditures for loan repayment, accounting services, promotion, insurance, licenses, etc.

The loan payment represents the costs of capital, depreciation and interest. The annual cost for advertising and promotion is a large percentage of the budget (approximately 13 percent). It is very important for entrepreneurs to realize that a large part of the budget should be allocated to marketing needs.

To break even on a cash-flow basis with an average per-bottle sale price of \$7.50, average variable cost per bottle of \$2.64 and total fixed costs of \$268,838, The Winery must sell 55,316 bottles of wine each year ( $\$268,838 / (\$7.50 - \$2.64) = 55,316$ ).



<b>Table 3: ANNUAL CASH FLOW FIXED COSTS</b>	
Annual loan payment (10 years at 9%)	\$91,738.00
Accounting	\$1,400.00
Advertising/promotion	\$36,000.00
Liability insurance	\$7,000.00
Proprietors life insurance	\$3,600.00
Licenses	\$500.00
Miscellaneous expenses	\$7,000.00
Office supplies and postage	\$2,000.00
Property taxes	\$1,300.00
Repairs and maintenance	\$5,000.00
Taxes	\$31,000.00
Telephone	\$3,500.00
Travel	\$4,000.00
Vineyard & grounds upkeep	\$1,500.00
Wages & salaries (tasting room)	\$71,500.00
Utilities	\$1,800.00
<b>TOTAL OPERATING COSTS</b>	<b>\$268,838.00</b>

### Needed Market Research

Substantial marketing research has been conducted in the wine industry on a national basis. Marketing research targeting Tennessee wineries and their customers was conducted in 1994 by Greg Pompelli, Associate Professor, Department of Agricultural Economics and Rural Sociology, The University of Tennessee. His research was conducted through surveys distributed at Tennessee farm wineries and primarily dealt with the customer profile for Tennessee farm winery visitors and descriptive statistics of the wineries.

Besides customer profiles of typical Tennessee farm winery visitors, market studies of how farm wineries promote their products, what varieties of wine they typically sell, average level of sales and how

wine is marketed are all areas that deserve further investigation. These questions will be considered in the second phase of the FSMIP study.

### Summary of Main Points of “The Winery” Case Study<sup>5</sup>

- Can a wine be produced and marketed in Tennessee profitably?
- Can the capital be obtained to enter the industry?
- Development of a business plan is essential for business success.

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<sup>5</sup> Developed from interviews with the case study participant.

- Licensing and other legal matters should be started well in advance of operation.
- Membership in the AVA can lower insurance cost.
- The location of the winery should be easily accessible/visible.
- Sweet and semi-sweet wines sell better in the Tennessee wine market than dry wines.
- Winemaking requires technical expertise.
- A winery should focus on production and marketing of wine, not necessarily the growing of grapes.
- Develop a contract with a reliable wine-grape grower that covers production methods, varieties, quantity, quality and the handling and transport of grapes to the winery.
- A tasting room provides potential customers a way to discover which wine they would prefer to buy.
- Set an expected amount of sales based on the average Tennessee farm winery sales, than increase production as sales increase.

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# Value-Added Case Study "The Country Ham"

**Federal-State Marketing Improvement Program**

**June 2000**

## **Overview of the Study**

A Tennessee business that processes pork into country ham products was selected as one of four value-added agri-businesses to serve as the subject for a case study. A personal interview was conducted with the owner/operator of "The Country Ham" to document specific business and industry details including technical, operational and financial parameters, marketing strategies and availability of marketing information. In addition to the country ham operation, businesses selected to serve as case studies include: value-added fruit products, a winery and a catfish restaurant.

The documentation for "The Country Ham" case presented here is descriptive in nature, attempting to fully explore and explain all details of the industry to be studied. By describing how this business started and became successful, it is hoped that other entrepreneurs may be able to use the information to better investigate potential value-added agricultural enterprises.

The on-site case study interview was conducted by the project's principal investigator. Specific details of the business are masked in this report to insure anonymity of the participants. The figures included in this report have been changed slightly to insure the confidentiality of the cooperator.

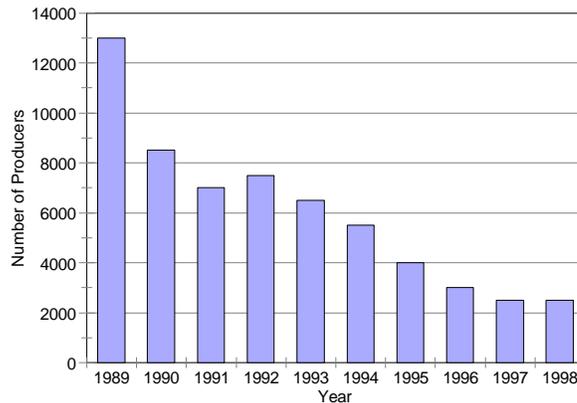
## **Introduction**

As of December, 1998, Tennessee ranked 22<sup>nd</sup> in the nation in hog production, a significant decrease from the 1970s, when Tennessee ranked as one of the top 10 hog-producing states. Tennessee has also lost large-scale packing companies and slaughtering facilities to other states since the '70s and '80s. One of the primary reasons for Tennessee's declining hog production is that packing companies are demanding heavier hogs with bigger hams. Historically production in Tennessee did not focus on

large-scale production, but many small producers. Tennessee producers were producing smaller hogs with varying quality and they failed to change with the industry during the 1980s to larger, more controlled hog production. The small Tennessee hog producer was unable to successfully compete in this new market.

On December 1, 1998, there were 300,000 head of hogs and pigs on 2,500 farms in Tennessee. The trend toward fewer hog producers in Tennessee since 1989 can be seen in Figure 1. In 1998, there were 79,000 farrowing sows with an average of

Figure 1: Hog Producers in Tennessee  
from 1989 to 1998



8.23 pigs per litter. The number of market size pigs was 260,000 head on December 1, 1998. Cash receipts from the sale of Tennessee hogs and pigs in 1998 totaled \$59.7 million (NASS, 1999). The majority of hogs in Tennessee are now raised in the western portion of the state. The market for hogs is primarily in surrounding states,<sup>6</sup> which have large-scale packing and slaughter facilities. The Tennessee market for pork is primarily supplied by out-of-state companies. Tennessee hogs are sold out-of-state, slaughtered, boxed and shipped back into Tennessee. Some small custom-slaughter facilities are located in Tennessee, but these custom facilities primarily service small niche markets.

Country ham production and consumption in Tennessee experienced a decrease during the late 1970s through the 1980s. This decline was primarily attributed to growing consumer health concerns and increased consumer awareness of sodium intake. The increase in ham consumption during the 1990s can be partly attributed to the increase in the number of hams being

quick-cured using lower amounts of salt. The decreased use of salt in curing hams has produced a softer, milder ham. This new ham is what the majority of U.S. consumers favor, “partly because they have never tasted a country ham cured in the slow old-fashioned manner.”<sup>7</sup>

### Business Overview

Finding a commercial country ham producer who cures hams using the old-fashioned slow method is rare, but there are still some around. The case study example in this report (The Country Ham) cures hams with both sugar and salt and “lets time work its magic on them.” While most country hams available on the market today are quick-cured, The Country Ham usually cures their hams for at least nine months, sometimes even longer. The end result is a “ham which tastes like no other.”

The Country Ham is located in a rural Tennessee county in a close proximity

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<sup>6</sup> Primarily Kentucky and Mississippi.

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<sup>7</sup> Remarks within quotation marks through this report represent comments by the cooperator.

to several metropolitan areas. There are more than 500,000 people located within 30 miles of the retail business.

The owner of The Country Ham got started in the early 1970s, taking over an existing business that had been experiencing some production problems. Growing up, the entrepreneur had experience with home curing of meats. It was a small step from home curing to a larger production scale. Many of the techniques he had learned from his family he was able to use in curing hams for retail sales. Because of his background, he decided to cure hams in the old-fashioned way.

### **Start-up**

The owner of The Country Ham was able to get a loan for \$246,200, which was used to cover start-up expenses such as buying the building and a large walk-in refrigeration unit. The refrigeration unit is necessary for storing the boxed pork before curing and for storing sausage before it is sold. A vacuum machine is used for vacuum-sealing bacon. Table 4 presents a breakdown of the costs associated with start-up. The start-up cost estimates in Table 4 represent new equipment.

Three slicers are used to cut and shape the input and to custom-cut hams for customers. The 10 stainless steel work tables are used in both the processing area and the curing area. The pallet jacks are used for moving large pallets of inputs and product to be shipped. The scales include two large scales (weighing hundreds of pounds at a time) for weighing input and final products and one small scale (maximum weight of 50 pounds) for weighing product for customers. The racks are used in the

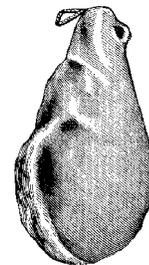
curing process to hang the curing hams and bacon.

When starting a new business, it is very important to shop around for the necessary equipment and search for the best buy possible. Purchasing used equipment may reduce costs substantially. According to Table 4, the estimated cost of starting a business similar to The Country Ham is approximately \$246,200. In this study, it is assumed that the entire start-up cost is borrowed at a rate of 9 percent over a 20-year term. Therefore, the annual payment on the start-up loan will be \$26,971 for 20 years. These terms are consistent with 1999 rates and industry practices.

As with all companies which produce a product for human consumption, The Country Ham must abide by Good Manufacturing Practices (GMP's) as set forth in the Tennessee Food, Drug and Cosmetic Act. Among other stipulations, GMPs require a facility to have:

- ▶ washable floors, walls and ceilings
- ▶ proper air ventilation
- ▶ covered light fixtures
- ▶ three-compartment sink
- ▶ proper storage for chemicals and personal hygiene factors.

The Tennessee Department of Agriculture is responsible for regulating and enforcing food safety as it pertains to food processing, handling, storage and sale in Tennessee (Morris, PB1399).



<b>TABLE 4: START-UP FIXED ASSET COST (1999 DOLLARS)</b>	
	<b>NEW COST</b>
Building	\$90,000.00
Land	\$10,000.00
Walk-in refrigerator	\$70,000.00
Vacuum packaging machine	\$10,000.00
Grinder	\$11,000.00
Slicer	\$2,200.00
Slicer	\$2,200.00
Slicer	\$2,200.00
Work tables (stainless steel)	\$2,000.00
Pallet jacks	\$4,000.00
Scales	\$2,200.00
Scales	\$2,200.00
Scales	\$1,000.00
Floor scales (2)	\$1,200.00
Racks (90)	\$36,000.00
<b>Total Start-up Cost</b>	<b>\$246,200.00</b>
Loan Repayment (9% over 20 yrs.)	\$26,971.00

### The Curing Process

Once the business acquires all the necessary items for start-up, production issues must be pursued. Curing hams is not a difficult process, but quality control is very important. Pests, temperature and humidity must all be monitored closely to insure a high-quality product. Most country ham producers use a curing mix that is formulated by independent spice companies instead of making their own. This is partly because sodium nitrite and sodium nitrate are controlled substances (they can be used as ingredients in explosives). A typical mix for curing 100 pounds of hams or shoulders consists of:

- # 8 pounds of meat salt
- # 2 pounds of sugar (either white or

- brown)
- # either 1 ounce of sodium nitrite or 2 ounces of sodium nitrate

Whether brown sugar or white sugar is used depends on the producer's preferences for the type of ham to be cured. Some producers think brown sugar adds color to the ham and stays on the ham better than white sugar. The Country Ham uses brown sugar in their curing mix.

### Input

The Country Ham buys boxed pork from Excel Corporation (a large national supplier). The boxes contain either hams or bacon bellies. Shipping is paid by The Country Ham. The buyer of boxed pork can specify which types of pork are included in a box, the quality of the pork and if any special

trim work is to be done. The fresh pork is stored in the walk-in refrigerator at The County Ham until processing can begin. Processing is started as soon after delivery as possible to limit any deterioration of the fresh pork.

### Curing

The hams should be clean, fresh, well-chilled, blocked and trimmed uniformly for ease of curing (allows a more uniformly finished product). Directions for a typical salting process include:

- # Rub the first one-third of the curing mixture into the lean area. Palm extra curing mix into the shank end and rub butt surface well.
- # Place hams on curing rack, skin down, shank-ends together. Pack curing mix over shank ends after the meat is cold. Place a thin layer of salt over racks to prevent discoloration of the skin.
- # The butt and shank ends should be packed with cure mix.
- # Repeat salting procedure on the 7<sup>th</sup> and 14<sup>th</sup> curing days.
- # Keep meat refrigerated at 38 to 40 degrees F. Cure time should be about two days per pound of fresh ham.
- # All lean surfaces should be kept covered with curing mix.
- # If hams are stacked while curing, they can be rotated when re-worked (7<sup>th</sup> and 14<sup>th</sup> day salting) for uniform salt content.

- # Keep a record of dates and weights for future reference.

The Country Ham usually cures about 500 hams at a time. The first rubbing requires approximately 16 labor hours; the second rub takes slightly less labor, only 14 labor hours for 500 hams. Hanging the hams for equalization and curing requires about 14 labor hours. Preparation, moving and other work requires approximately 15 labor hours throughout the curing process. The entire curing process can take between four to nine months, depending on the exact process used.

### Equalization

The next step in the curing process is the equalization period. Equalization allows the salt to become uniformly distributed throughout the interior of the ham. After the salting period, the hams should be hung from hooks to allow air to reach the outside of the ham. Hams should be placed in stockinettes to keep them in the expected ham shape. If hams are not in stockinettes, the meat will flatten out and consumers typically “prefer a ham which looks like a ham, not a flat piece of meat.” The hams should hang at least six weeks to allow the curing mix to equalize throughout the ham. This should be done in temperatures of 50 degrees Fahrenheit or lower.

### Possible Insect Problems

Insects that most commonly attack curing and cured hams are the skipper fly, the red-legged ham beetle and the larder beetle. The larva of the red-legged ham beetle attack the interior of the ham and the adults feed on the surface. The larder beetle also attacks the surface of the meat. The larva of the skipper fly burrow into and

attack the interior of cured meat, destroying the inside and turning the meat slimy. Mites can also infest cured hams, feeding on the surface of the meat.

There are three ways to protect the hams from insects:

- ▶ having a clean storage area
- ▶ enclosing all areas where meat is kept to keep pests out
- ▶ applying insecticides and protecting the exterior of the hams from insects

Before placing meat in any area, sweep the space and scrub all surfaces. Give special attention to cracks in shelves, walls and floors. Never place meat in an area that has not been thoroughly cleaned. Also be sure all doors and windows fit tightly. This will make it more difficult for insects to enter cleaned areas where meat is ready for curing or is being cured.

Insecticides can be used to further insure that any insects, larva or eggs that remain after a through cleaning are killed and any that enter later will be destroyed. Insecticides can be applied after cleaning but before placing any meat in the area. Insecticides should be surface-applied and only used on surfaces that do not come into contact with the meat. Insecticides recommended for use while meat is in the area may be applied with a paintbrush, but only to surfaces that do not come into contact with the meat.

Protecting the meat after it has been cured can be accomplished by embedding or wrapping and hanging the hams. Wrapping and hanging the hams is the best way for a large-scale producer to protect hams. Ham should be wrapped with heavy wrapping paper, placed in a sack or stockinette and

hung from a string or wire. The hams should not come in contact with each other, as this would allow insects from an infected ham to damage uninfected hams.

Embedding refers to wrapping the ham and placing it in an enclosure packed with cottonseed hulls. Embedding is recommended only for the small producer, as it is time-consuming and difficult to monitor the quality of the hams. It is important that the hulls do not have grain beetles, as they could contaminate the ham. Hams should be checked at least once a month for quality control. Hams ready for sale should be kept between 55 and 60 degrees Fahrenheit to limit the development of insects. Hams that become infected with insects should be removed from the curing facility immediately, as should any hams which have come into contact with infected hams (Winfrey & Melton, PB700).

### **Cost of Operation**

The Country Ham purchases boxed pork for curing. Once the pork is cured and processed, three primary country ham products are packaged: country ham, sausage and bacon.

The costs associated with the overall operation of the business are presented in Table 5. These costs include the cost of inputs and ingredients for meat curing, daily operational costs and loan re-payment. The curing ingredients include all items used in the curing process. The line item containing packaging, paper, labels, stockinettes and boxes is the cost for all packaging materials. Hams that are shipped are wrapped in cloth sacks and placed in boxes. Boxes are also used for customers who purchase products at the retail store and request boxes.

Stockinettes are used to keep the shape of the ham while it is curing. As can be seen in

Table 5, the cost of packaging can be substantial, approximately \$0.55 per ham.

<b>TABLE 5: COST OF OPERATION (1999 DOLLARS)</b>			
Loan payment (9% over 20 years)			\$26,971.00
	<b>per lb.</b>	<b>total lbs.</b>	<b>total cost/yr</b>
Boxed pork	\$0.90	450,000	\$405,000.00
	<b>per ham</b>	<b>no. of hams</b>	
Curing ingredients	\$3.50	11,000	\$38,500.00
Packaging, paper, labels, stockinettes, boxes			\$20,000.00
Labor			\$21,000.00
Product insurance			\$10,000.00
Worker's compensation			\$5,000.00
	<b>per month</b>	<b>no. of mos.</b>	
Utilities			
Electric	\$1,200.00	12	\$14,400.00
Telephone	\$100.00	12	\$1,200.00
Water	\$40.00	12	\$480.00
Waste			\$50.00
License			\$20.00
<b>Total Annual Fixed Costs</b>			<b>\$542,621.00</b>

The product insurance cost covers the hams while they are curing. If something should happen to the hams during the curing process, rendering them unfit for consumption, the insurance would cover the loss of the product. This insurance protects the business's investment in hams, as there is a long delay between purchasing the fresh hams, curing them and selling the cured hams. Entrepreneurs interested in curing hams for commercial sale should investigate product liability insurance.

The line item for waste includes the cost of occasional dumping at an approved landfill. Most of the waste material generated by The Country Ham is either burned (paper waste) or given to a slaughter facility (waste animal products), which sends the offal from its own production to various animal by-product waste facilities (feed processors, etc...).

It should also be noted that this type of business experiences a long lag time between expenditures and revenue. Because

it takes several months for the curing process, no return will be realized while the hams are curing, meaning that the operator must have some means of covering operating costs (working capital) while the hams are curing (four to nine months is the normal turn-around time between buying and selling the hams). In the case of The Country Ham, the entrepreneur had a short-term operating loan from a commercial lender that was used to cover operating costs during the first year of operation. After the first year, cash flow stabilized and an operating loan was no longer needed. To decrease the time between cash outflow and revenue generation, the owner of The Country Ham does not allow purchasers to delay payment. All payment is collected before the product is delivered or at delivery.

## **Marketing**

The owner of The Country Ham has found a specific marketing niche— people who want hams cured in the old-fashioned, slow method. Though the product is marginally more expensive than the quick cured hams that are mass produced, the quality of The Country Ham’s product is evident to those with a discerning taste. The Country Ham’s retail store is in the front of the building used for processing the hams. It is approximately 30 feet long by 20 feet wide (600 square feet). Most of the product is stored either in the back of the facility or in the walk-in cooler.

The Country Ham’s average consumer cannot be limited to only one type of customer. There are two distinct profiles for the customers of The Country Ham. First, there is a large local customer base composed primarily of people who grew up

eating ham and other pork products cured in the “old-fashioned” manner. This local customer base is mostly older, varied in racial composition and usually blue-collar or agricultural workers. The second type of customer includes both regional and mail-order customers. The regional customers are generally more affluent than the local customers and are willing to travel approximately 100 miles to purchase The Country Ham’s products. The mail-order customers are also more affluent and willing to pay extra to have cured pork products shipped to them. The Country Ham does not send out catalogs to potential mail-order customers, though they have been included in magazine write-ups of country hams available from the southeastern U.S. Typical mail orders are usually only for hams, though some customers occasionally order other products. These two types of customers (regional and mail-order) value the manner in which the hams have been cured and are willing to spend the extra time and money to purchase hams cured in this fashion.

Though The Country Ham did some promotion at start-up, very little promotion has been done since. The promotion at start-up primarily consisted of gaining restaurant customers for the wholesale side of the business through visiting the restaurants personally with a sample of the ham. Some print advertising (newspaper primarily) was used in surrounding communities to make the public aware of The Country Ham. The proprietor now depends on word-of-mouth for promotion. However, the proprietor feels that if he had to start the business in today’s economy, advertising and marketing efforts would be essential to gaining business. Located off a major state-highway (with an average daily traffic count in 1997 of 10,190), the business is easy to locate and

visit. The building is located next to the highway and a large sign announces the business and its specialties to all travelers on the highway.

The product line includes slow-cured country hams, bacon (hickory smoked and plain), sausage, ham hocks and various complementary items such as cheese, molasses, honey and other meat products. However, 95 percent of The Country Ham's total revenue is generated from sale of the three primary meat products: ham (70 percent), bacon (20 percent) and sausage (5 percent). These three products are the driving force behind the success of the business. The manner in which the hams are processed and cured targets specific niche markets (local, regional and mail-order). Because of the large demand for high-quality hams during the holiday season, Thanksgiving through Christmas is the highest selling period of the year for The Country Ham. Approximately 75 percent of annual ham sales occur during the Thanksgiving through Christmas season.

The main product sold through The Country Ham is slow-cured country hams. The bacon is sold in vacuum-sealed packages, while the ham hocks can be chosen on an individual basis. The demand for hams produced by The Country Ham has remained fairly constant, averaging around 11,000 hams per year. Approximately 60 percent of the hams are sold through wholesale channels (at a price of approximately \$1.99 per pound), while the remaining 40 percent is sold either through the retail store or mail order (for \$2.39 per lb.).

The wholesale channel is primarily composed of small restaurants and gift shops around the country. The Country Ham got into wholesaling to restaurants by visiting

area restaurants and convincing them that this product was the one they should carry. However, the main proprietor of The Country Ham feels that this is probably not a market that new businesses should enter. In addition to the fact that wholesale prices are lower than retail prices, there are also extra costs associated with wholesaling to restaurants (delivery cost, special cuts, etc.). Because of the extra costs and lower price, The Country Ham does not seek to increase the wholesale market. No special labeling or packaging is required apart from typical USDA regulations concerning food products and the state GMP requirements. Information on USDA and state GMP requirements can be obtained from:

United States Food & Drug Administration  
297 Plus Park Blvd.  
Nashville, Tennessee 37217  
Telephone: (615) 781-5372 ext. 122

Tennessee Department of Agriculture  
Regulatory Services Division  
P.O. Box 40627  
Nashville, Tennessee 37204  
Telephone: (615) 837-5150

### **Break-even Analysis (Table 6)**

The Country Ham buys an estimated 450,000 pounds of hams, bacon bellies and pork ribs per year from a major national supplier. Because 95 percent of the output sold is in hams, bacon and sausage, the costs and returns on the other products have not been estimated in this study. One important thing to remember is that the purchase price of pork (the main input for The Country Ham's products) does fluctuate throughout the year. The Country Ham has experienced

price changes from 50 cents per pound to as high as \$1.20 per pound for fresh, boxed pork. An average estimate of 90 cents per pound is used as the purchase price for fresh pork in this study.



<b>TABLE 6: BREAK-EVEN ANALYSIS ON HAMS</b>	
	<b>COST PER POUND</b>
Average price of fresh pork	\$0.90
Curing	\$0.20
Packaging, paper, boxes, labels & stockinettes	\$0.10
Labor	\$0.20
<b>Total variable cost per pound</b>	<b>\$1.40</b>
<b>Fixed cost</b>	<b>\$43,121.00</b>
<b>Average sales price per pound of ham</b>	<b>\$2.40</b>
<b>Pounds of ham needed to sell to break even on fixed costs</b>	<b>44,775</b>
<b>Average weight of hams (pounds)</b>	<b>16</b>
<b>Number of hams needed to sell to break even on fixed costs</b>	<b>2,798</b>

With an average sales price of \$2.40 per pound, 44,775 pounds of ham must be sold each year for the business to break even. If each cured ham weighs an average 16 pounds, then a total of 2,798 hams must be sold<sup>8</sup>. In this analysis, variable costs are allocated exclusively to hams; no variable cost is associated with bacon or sausage.

### Needed Market Research

Additional information regarding the marketing methods and tactics being used by country ham businesses is needed. In addition, a complete customer profile for country ham consumers would be helpful to this industry. Available niche markets for country hams and product preferences by these markets are also important market development issues that should be addressed. A variety of these issues will be considered in the second phase of the FSMIP study.

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<sup>8</sup> Break-even analysis: Annual fixed cost divided by the average sales price.  $\$43,121 \div (\$2.40 - \$1.40) = 44,775$  pounds of ham.

## Summary of Main Points of “The Country Ham” Case Study<sup>9</sup>

- ▶ Long time period between cash outflow and revenue generation.
- ▶ Country hams cured using large amounts of salt are a niche commodity.
- ▶ Loans for operating costs may be necessary.
- ▶ Good return possible on retail sales; wholesaling may not be worth the extra costs and time involved.
- ▶ The holiday season is the highest volume sales period of the year (Thanksgiving to Christmas). The curing process should be started with this in mind.
- ▶ Quality control is essential in this industry to protect the investment made on input and to insure that the product is fit for human consumption.

## Sources Cited

- Melton, Curtis C. Personal Interview. January, 2000.
- Morris, William C. “Getting Started in a Food Manufacturing Business in Tennessee.” University of Tennessee, Agricultural Extension Service. PB1399.
- National Agricultural Statistics Service (NASS). “Tennessee Agricultural Statistics 1999.” Tennessee Department of Agriculture, No 325221. August, 1999.
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<sup>9</sup> Developed from interviews with the case study participant.



# Value-Added Case Study "The Restaurant"

**Federal-State Marketing Improvement Program**

**June 2000**

## **Overview of the Study**

A value-added enterprise in Tennessee's aquaculture industry was identified as one of the four businesses selected as the subject for a case study. The selected aquaculture business produces catfish in a pond system, processes the fish and serves them to consumers through a public restaurant located at the fish farm.

A personal interview was conducted with the owner/operator of "The Restaurant" to document specific business and industry details, including technical, operational and financial parameters, marketing strategies and availability of marketing information. In addition to the catfish restaurant operation, businesses selected to serve as case studies include: value-added fruit products, a winery and a country ham business.

The documentation for "The Restaurant" case presented here is descriptive in nature, attempting to fully explore and explain all details of the industry to be studied. By describing how this business started and became successful, it is hoped that other entrepreneurs may be able to use the information to better investigate potential value-added agricultural enterprises.

The on-site case study interview was conducted by the project's principal investigator. Specific details of the business are masked in this report to insure anonymity of the participants. The figures included in this report have been changed slightly to insure the confidentiality of the cooperator.

## **Situation & Outlook**

The production of catfish in the nation's four major catfish-producing states (Alabama, Arkansas, Louisiana and Mississippi) was up 16 percent in July 1999 from the previous year. As of July 1999, there were 302 million food-size fish, 1.16 million brood fish and 776 million stockers on hand in the four major states. The total water surface acreage used for production was up 5 percent in 1999 from a year before,

totaling 172,200 acres. The total number of operators in the four states was up 7 percent to 895. The number of food-sized catfish produced in the four states has risen from approximately 180 million pounds in 1993 to just over 350 million pounds in 1999 (NASS, 1999).

Per-capita domestic consumption of catfish appears to be fairly stable. Overall consumption of catfish is growing slightly due to increases in the U.S. population. Catfish, shrimp, salmon and tuna make up

approximately 60 percent of total seafood and fish consumption. For per-capita consumption of catfish to increase, the market for catfish would have to capture market share from other types of seafood and fish (ERS, 1999).

### **The Tennessee Industry**

Catfish production in Tennessee is almost nonexistent when compared to the four major catfish-producing states. In January 1998, there were 21 Tennessee catfish producers, with a total water surface acreage of 290 acres (an average of 13.8 acres per producer) (NASS, 1999). The producers sold approximately 200,000 pounds of catfish in 1998 for approximately \$225,000 (average price was \$1.13/lb in 1998 dollars). In 1984, there were 29 producers, raising catfish in 460 water surface acres, with a total weight of 179,575 pounds (average price was \$1.57/lb in 1998 dollars) (Gockowski & Keller, 1987). This indicates that while prices for market catfish have decreased over the study period, producers have become more efficient at producing catfish, using 170 less acres for greater production totals and increasing their return per acre because of the increases in production. Adding value to catfish may be one way for producers to see a greater return on their investment.

### **Business Overview**

When the owners of The Restaurant were nearing retirement age, they began to discuss their post-retirement plans. The couple knew they wanted to do something very different in their retirement than they did during their professional years. As a

result of previous scuba diving experiences, they had developed a strong interest in fish and fish farming and were interested in pursuing their hobby as a business.

Upon retirement, they began to look around at various locations for a place to develop their aquaculture interests. They decided to buy some land in Tennessee partly because it was close to relatives. Soon after moving to Tennessee, they acquired additional property near the existing property that was available at a very attractive price. The new parcel of land was well-suited for catfish pond construction (flat, with a water source close by). The first piece of land was purchased about 10 years ago and the adjacent property was acquired the following year. The farm now includes 170 acres.

Construction of five ponds totaling 3.5 surface acres began immediately after acquisition of the second parcel of land. Soon after the construction of the ponds was complete, a small building on the property was renovated for use as a fish cleaning facility. The ponds were stocked primarily with stocker, fingerling-sized catfish. Fish were grown to approximately 1 to 1.5 pounds and marketed primarily as cleaned, fresh catfish to local consumers for home preparation, with some additional sales to local restaurants. A strong following for the fresh catfish developed in the local community. However, the local market was not large enough to support the total fish production from the five ponds. Promotional efforts, including taking catfish samples to local restaurants were increased, but these sales were at lower prices than the direct sales to consumers and thus represented lower profit margin sales.

Looking for a way to sell all the catfish being produced, the entrepreneurs evaluated the idea of opening a restaurant. The farm itself is located 10 miles from the

county's largest town, with a population of 4,100. There are 39,000 households within a 30-mile radius of the farm (U.S. Census, 1992). During the sixth year of production, the small building that had been used for fish cleaning was renovated into a restaurant. The 32-foot by 42-foot building sits about 100 feet from a gravel country road and a quarter mile from the catfish ponds. The Restaurant's main attraction is fresh, pond-raised catfish and various Cajun/Creole style dishes.

From the time the first fish was placed in a pond, the owners have been the primary labor and marketing force. The husband concentrates on raising and processing the fish and cooking in the restaurant. His wife handles the finances and helps in the restaurant with seating and waiting on customers. The couple uses the profits from their aquaculture enterprises to supplement their retirement incomes and re-invest in their business.

Consideration has been given to increasing the seating capacity of the restaurant, extending the hours of operation and building more ponds. However, all of these changes would require additional labor. Currently, the ponds, the restaurant and the labor and management are considered to be in a good "balance" and any additions (despite the likelihood of additional revenues) would likely disrupt the healthy combination of resources. In addition, the entrepreneurs consider their current combination of aquaculture enterprises to be optimal for their business goals.

## **Raising Catfish**

Raising catfish is relatively easy if the owner is very attentive to the day-to-day needs of the operation and pays attention to

pond construction details and water quality. The steps involved in raising catfish in Tennessee can be summarized as:

- 1) Pond construction
- 2) Stocking
- 3) Fish and pond management
- 4) Harvesting

### Pond Construction

Some commercial fish farms are started by using existing ponds. However, The Restaurant did not have any existing ponds and found it more favorable and safer to custom-build their ponds specifically for raising catfish. They were able to build ponds with the preferred 3- to 4-foot depth and a bottom sloped toward the harvesting area. The business has five ponds totaling approximately 3.5 surface acres with an average annual production capacity of 11,250 pounds of catfish from all ponds. The owners decided on five ponds so they could rotate production to have fresh catfish pretty much year round. The five ponds were constructed within the first year of business and their cost estimates (in 1999 dollars) are detailed in Table 7. The costs in Table 7 are based on a one-acre pond. Due to the composition of the soil, the ponds are water tight without the addition of any sealants.

The backhoe in this example is owned by the producer. Its initial price has been divided by 3.5 to find the cost per acre. It may be less expensive to rent a backhoe for digging and shaping the pond(s). Keeping costs down is very important. The less you have to go into debt to start an enterprise, the easier it is to succeed. Some contract labor is necessary, although in this example the owners did much of the work and the value of their time is not included in

Table 7. The contract labor included in Table 7 is for operation of the backhoe and for laying the cables for electric lines to the ponds. The electric lines are used to supply power to aerators and well pumps.

An aerator is usually necessary to insure that the pond does not stratify (form layers of water with different temperatures and different levels of dissolved oxygen/carbon dioxide). In a very few cases, such as a spring-fed pond, an aerator may not be necessary. It is important for the water to be aerated as it insures plenty of dissolved oxygen in the pond. The movement of the water caused by the aerator also helps to keep algae blooms from covering the surface of the pond, creating problems with dissolved oxygen levels and feeding.

The water used to fill the pond should be tested before filling to avoid contamination from pesticides and detrimental organisms. The best source of water is either a natural spring or a well. Filling from creeks and rivers is not recommended as it can introduce fish and fish eggs which will compete with the catfish for food and territory. The local office of the Natural Resource and Conservation Service will usually be able to test the water free of charge to insure that it is suitable for use in production ponds.



<b>TABLE 7: INITIAL POND CONSTRUCTION (1999 DOLLARS)</b>	
	<b>COST PER ACRE</b>
Contract labor	\$2,000.00
Backhoe	\$1,714.00
Electric/lines/gravel	\$714.00
Aerator	\$350.00
Water (well & spring fed)	\$0.00
<b>Total</b>	<b>\$4,779.00</b>

## Stocking

The stocking rate depends on the size and number of fish you wish to harvest. Four-to 6-inch fingerlings stocked at 1500 per surface acre typically average more than a pound each after a 210-day growing season. The same fingerlings stocked at 2000 per surface acre will average slightly less than a pound. For a commercial operation with low levels of management, the recommended stocking rate is 1500 to 2000 fingerlings, 5 to 6 inches long (Hill, PB1287). The Restaurant typically stocks 4200 fingerlings per acre. Though this is a very high rate at which to stock, with the use of aerators it is possible to keep the fish healthy at this high level of stocking. The fish harvested by The Restaurant average slightly less than one pound each.

## Fish and Pond Management

Two basic types of feed are used for commercial catfish operations: floating or sinking feed. Typically, floating feed is used during warm-weather months when the fish are more active and will rise to feed. Sinking feed is usually used during the winter when the catfish are less active and the sinking feed is easier for them to eat at a slower rate. It is recommended for the inexperienced producer to use floating feed during the winter months, as it is easier to observe whether the catfish are feeding. The composition of the feed should be consistent regardless of type, and it should contain 28 to 36 percent protein, 6 percent fat, 10 to 20 percent carbohydrates and 10 to 15 percent fiber. A minimum of 8 percent of the feed should be fishmeal.

Feed should be scattered at several sites in a pond to insure similar feeding opportunities and growth rates of all fish in the pond. When feeding, check to see that the fish are responding to the introduction of

feed to the pond. If the fish are not rising to eat the food, something is wrong (possible problems include: water quality, diseases and parasites). While feeding sinking feed during cold weather, consider scattering small amounts of floating feed to check if the fish are eating. If the fish are not eating, the problem should be determined before adding more feed to the pond. Uneaten feed decays and can cause problems such as increased turbidity of the water, increased bacteria, higher levels of algae and lower levels of dissolved oxygen. Never feed more than 40 pounds of feed per acre unless water is flowing through the pond or there is a high level of aeration. Under these circumstances, the amount of feed can be increased to 50 to 60 pounds per acre, per day (Hill, PB1287).

Self feeders can be used to automate daily feeding, but if the ponds are smaller than two acres, the cost of the self-feeders will most likely be prohibitive (a feeder can cost upwards of \$4,000). It is recommended that ponds two acres and smaller be hand fed to lower the cost of investment. Correct hand feeding insures that the entire pond receives the same level of feed across the pond. In addition, hand feeding is cheaper than investing in automated feeders and allows the operator to spend time checking on the condition of the pond and the fish.

## Harvesting

Two harvest methods are available for producers, either a total pond harvest or a partial harvest. A total pond harvest involves draining the pond or using a small-mesh seine to catch all the fish. A partial harvest is usually conducted three or four times a year using a seine with large mesh. This method allows small fish to remain in the pond to grow to the desired size. A seine with 1 5/8-inch mesh will retain catfish

of 1 & 1/4 pound and larger. The Restaurant rotates the production of the ponds so that they harvest about half a pond every five weeks (partial harvesting).

The type of harvesting to be done depends partly on the marketing plans of the individual producer. There are three primary markets available for catfish produced in Tennessee:

- 1) Wholesale:           - Large volumes required to supply processing plants, cooperatives and high-volume outlets such as the live-haul industry
  
- 2) Retail:               - Usually for small-volume sales (a local restaurant or farmer's market)
  
- Fish are sold either live or dressed (gutted and skinned)
  
- Prices per pound will usually be higher than wholesale prices
  
- 3) Fee-fishing:       - Customers pay on a per-pound basis for each fish caught

The Restaurant uses a total harvest where all the catfish in the pond are pulled out with a small-mesh seine and placed in a water-filled cattle trough with aeration for transport to the cleaning area. The size of the harvested catfish is fairly uniform,

although some are smaller and some are larger than the majority. This is partly because some fish will slip through or under the net and continue to grow until the next harvest. As The Restaurant offers several different sizes of catfish on the menu, this is not a problem for the owners. The harvested catfish are primarily used as a value-added commodity by the restaurant enterprise.

At The Restaurant, the catfish production section of the business basically "sells" all of the harvested fish to the restaurant at a value of \$0.83 per pound. This covers the cost of production of the catfish. No profit is realized by the production side of the business. All profits (and losses) are realized by the restaurant segment.

#### Cost of Production

The owners of The Restaurant typically stock 4200 fingerlings per acre per year on a rotating schedule. The annual costs of production are detailed in Table 8.



<b>TABLE 8: ANNUAL COST OF PRODUCTION (COST PER ACRE)</b>			
	<b>AMOUNT/YR (TONS)</b>	<b>COST PER TON</b>	<b>TOTAL COST</b>
Floating feed	2.28	\$320	<b>\$729.60</b>
Sinking feed	0.11	\$320	<b>\$36.57</b>
Cost of stockers	Cost per Stocker	# of Stockers	
	\$0.22	4200	<b>\$924.00</b>
Other costs	number of units	cost/unit	
Netting	1	1200	\$1,200.00
Utilities (electricity only)			\$70.00
Hired help			\$480.00
Water (well and spring-fed)			\$0.00
Total other costs			<b>\$1,750.00</b>
<b>Total Annual Cost of Production</b>			<b>\$3,440.17</b>

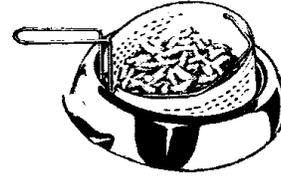
Floating feed is used during the summer while water temperatures are relatively warm (from March through October). Sinking feed is used during the remainder of the year. Water for four of the ponds is supplied by wells; the remaining pond is spring-fed. The cost to run the well pump is included in the utility cost. One to two part-time employees are usually hired to help with the harvesting. The utility cost (electricity only) covers the cost to run the well pumps and the aerators. Some costs, such as algaeicide and medicines, are not included in this annual operating budget, as these are not costs the owner should expect to accrue every year.

### **Restaurant Operation**

With excess production of catfish from the five ponds and a strong desire to

have a restaurant, the entrepreneurs opened a restaurant at the farm six years after they started raising catfish. Part of an existing building on the farm had already been converted for use as a fish processing area. The remainder of the building was simply modified, brought up to code for use as a commercial kitchen/restaurant and remodeled with a restaurant environment. As in the case of all buildings that are used to process food products for human consumption, the building must follow Good Manufacturing Practices (GMPs). Typical GMPs include: washable floors, walls and ceilings; proper air ventilation; covered light fixtures; three-compartment sink; proper storage of chemicals; and personal hygiene factors. The regulations regarding food processing are available from the Tennessee Department of Agriculture, Division of Food Safety.

The investment costs for the restaurant (in 1999 dollars) are presented in Table 9. It may be possible to start up for less investment if used equipment is purchased. The owners of The Restaurant feel that by purchasing used equipment, they spent only 77 percent of what the restaurant would have cost if they had purchased all new equipment. To this point, the used equipment purchased by The Restaurant has been “as reliable as new equipment would have been.”



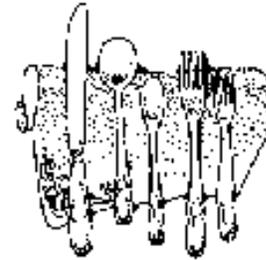
<b>TABLE 9: RESTAURANT FIXED ASSET COST (1999 DOLLARS)</b>	
<b>Stove</b>	\$3,000.00
<b>Single-well deep fryers (5)</b>	\$2,500.00
<b>Refrigerators</b>	
Kitchen	\$1,000.00
Upright	\$1,100.00
Preparation	\$750.00
<b>Freezers</b>	
Chest	\$450.00
Upright	\$600.00
<b>Microwave</b>	\$150.00
<b>Ice machines (2)</b>	\$4,000.00
<b>Counters (stainless steel)</b>	
Cleaning counter w/sinks	\$350.00
Counter for dishwasher	\$250.00
Kitchen	\$250.00
Preparation	\$250.00
<b>Tables &amp; chairs</b>	\$500.00
<b>Booths</b>	\$800.00
<b>Cash register</b>	\$650.00
<b>Building &amp; renovations</b>	\$20,000.00
<b>Total</b>	<b>\$36,600.00</b>

The stove is a commercial gas stove with eight burners. Five deep fryers are used for cooking catfish and assorted other menu

items. The preparation refrigerator is used for cold storage of menu items to be prepared during the day. To insure

cleanliness and limit bacteria and other hazardous material build-up, all of the counters are stainless steel.

The annual operating (fixed) costs for The Restaurant are presented in Table 10. The costs included for catfish are the amounts per year that are spent on catfish bought from other suppliers to supplement the catfish raised in the farm ponds. The success of The Restaurant caused the demand to exceed the supply of catfish raised in the on-farm ponds.



<b>TABLE 10: RESTAURANT ANNUAL FIXED COSTS</b>	
<b>Catfish</b>	
Fillets	\$1,250.00
Whole fish	\$500.00
<b>Utilities</b>	
Propane	\$1,000.00
Electric	\$3,000.00
Water (well)	\$0.00
Phone	\$650.00
<b>Ingredients</b>	
Dry goods & side orders	\$2,000.00
Chicken and seafood	\$3,150.00
<b>Waitresses</b>	\$1,100.00
<b>Cleaning (private service)</b>	\$1,200.00
<b>Value of raised catfish (11,250 lbs at \$0.83/lb)</b>	\$9,337.00
<b>Soda fountain (rented)</b>	\$825.00
<b>Dishwasher (rented)</b>	\$1,020.00
<b>Insurance</b>	\$1,200.00
<b>Interest payment (loan at 9%)</b>	\$3,100.00
<b>Total Annual Operating Cost</b>	<b>\$29,332.00</b>

The soda fountain is rented; the cost shown in Table 10 is the cost per year for the equipment, soda water and flavoring. The dishwasher is rented at a cost of \$1,020 per year. The Restaurant contracts with a

private cleaning service to clean the restaurant once a week at a cost of \$1,200 per year. Dry goods includes all spices, flours and other ingredients to be used for recipes and side orders, as well as paper

products such as napkins. These items are purchased through a food service vendor who delivers to The Restaurant. The water cost is zero as the restaurant's water is supplied from a well. The cost of the electricity used to run the pump on the well is included in the total monthly electric cost. The Restaurant carries a \$1 million product liability insurance policy; the annual premium is \$1,200 per year. The low cost associated with the part-time waitress staff is because the federal minimum wage for servers is only \$2.13 per hour. This is because it is assumed that the servers will receive a large enough amount of tips to make at least the federal minimum wage of \$5.15 per hour.

The Restaurant is only open four days a week. This is for a couple of reasons. First, because the customer base is fairly small, the restaurant can only afford to remain open on a limited schedule. Second, the ponds and the restaurant are primarily operated by the entrepreneurs. The Restaurant has seating for approximately 30 people. An average of 160 customers visit The Restaurant per week. The busiest meals are Friday and Saturday night dinner. The owners do all of the cooking, handle seating and some of the service and two additional waitresses are employed part time on Friday and Saturday. With this small labor force, the hours the restaurant is currently open keeps the entrepreneurs busy and allows for total use of the catfish raised by The Restaurant.

While the primary menu item at the restaurant is catfish, it is served in a variety of ways (10 different sizes and/or styles). Approximately 75 percent of the dinners served are catfish dishes. The restaurant also serves a variety of seafood, chicken (seven entrees) and Cajun/creole style entrees (six entrees). There is a wide selection (10) of

vegetable side orders (a selection of two is included in the cost of an entree). Each entree and side order is also available "A la carte" (example: it is possible to only order one fillet without any side orders). The restaurant also offers a wide selection of drinks (carbonated beverages, coffee, tea, herbal tea, hot chocolate and hot spiced apple cider).

## **Marketing**

Sales by the business have remained at a fairly stable level since operations commenced a few years ago. Several regular customers (those who visit the restaurant on a regular basis) provide the majority of the business, with a small component of local and semi-local customers visiting on a non-regular basis.

The prices of The Restaurant's entrees are consistent with prices charged at restaurants in surrounding communities. The Restaurant offers 23 entrees with a price range of \$5 to \$9. The average price of an entree is \$8.50 and includes an entree with hushpuppies, the choice of two side orders and a beverage. The Restaurant does not typically run any specials.

The Restaurant spends very little on advertising and promotion and relies heavily on word-of-mouth to attract new customers. The Restaurant depends primarily on repeat customers. When the restaurant first opened, some print advertising was used in surrounding metropolitan areas. Very few promotions have been conducted since start-up, as The Restaurant has all the business it can handle. There are two signs on the nearest state highway directing customers to the restaurant. The average daily traffic count on the nearest state highway was 3110 vehicles in 1997. The nearest major

metropolitan area (population of 50,844) is 16 miles away, and there is another town (population 10,066) within 25 miles. A large percentage of the restaurant's business comes from these two metropolitan areas. The Restaurant's operating budget does not include any marketing costs, as there are typically no promotions.

The typical customer can be described as white-collar urbanites or factory workers from surrounding areas. The menu targets these two customer-profile eating preferences: low-priced, high-quality food in large amounts. The menu has changed some from the initial menu to increase the customer draw. The Cajun/creole style entrees and increased seafood selections were added after one year of operation to increase interest in the restaurant and draw non-fish-eating customers. Cajun/creole style dishes were chosen because of the entrepreneurs' background and knowledge of that style of cooking.

### **Break-even Analysis**

The following break-even analysis presented in Table 11 is based on two types of costs: fixed costs and variable costs. Fixed costs are overhead-type expenses that don't change as the level of output changes. Variable costs change with the level of output produced. Three pieces of information are needed to evaluate a break-even point: average per-unit sales price, average per-unit variable cost and annual fixed cost.

The break-even analysis in Table 11 is conducted for a hypothetical restaurant based on information from The Restaurant, which sells only catfish and has 0.5 pounds of catfish on each entree. The price of each entree is \$8.50 and includes a side order and

a beverage. To cover all costs, the hypothetical restaurant must sell 1,672 entrees during the year.



<b>TABLE 11: BREAK-EVEN ANALYSIS (1999 DOLLARS)</b>	
<b>Total Annual Fixed Cost</b>	\$13,095.00
<b>Variable Costs (cost per entree)</b>	
Catfish (0.5lbs at \$0.83 per pound)	\$0.42
Side Order and Entree Ingredients	\$0.25
<b>Total Variable Cost</b>	\$0.67
<b>Price per Entree</b>	\$8.50
<b>Break-Even Number of Entrees</b>	<b>\$1,672.00</b>

### Needed Market Research

While market research has been conducted on catfish farms, very little research has been done on small restaurants whose primary entree is farm-raised catfish. What type of customers will frequent such restaurants? What attributes (both in terms of the restaurant itself and the menu) do they consider when appraising fish and seafood restaurants? What location and advertising should a potential restaurateur consider before starting a restaurant? These are all questions which will be addressed in the second phase of the FSMIP study.

### Summary of Main Points of the Case Study<sup>10</sup>

- It may be possible for a catfish producer to capture higher returns through selling catfish as a value-added product.
- Maintaining good water quality is essential for producing a high-quality catfish.

- A restaurant focusing on fresh catfish may be able to target a specific market niche that is not being serviced at this time.
- Small-scale catfish production may not garner enough profit by itself for an entrepreneur to have a successful business.
- There are relatively low labor requirements in the industry.
- Relatively low investment cost is required for a small-scale catfish operation and restaurant.
- The producer must be aware of all laws and regulations concerning production and cooking of products for human consumption.

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<sup>10</sup>Developed from interviews with the case study participant.

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# Value-Added Case Study "The Fried Pie"

**Federal-State Marketing Improvement Program**

**June 2000**

## **Overview of the Study**

Many Tennessee fruit orchard operations have evolved to include value-added enterprises. One such value-added orchard business was selected as one of four value-added agri-businesses to serve as the subject for a case study. A personal interview was conducted with the main proprietor of "The Fried Pie" to document specific business and industry details including technical, operational and financial parameters, marketing strategies and availability of marketing information. In addition to a value-added fruit product business, businesses selected to serve as case studies include a winery, ham-curing business and a catfish restaurant.

The documentation for "The Fried Pie" case presented here is descriptive in nature, attempting to fully explore and explain all details of the industry to be studied. By describing how this business started and became successful, it is hoped that other entrepreneurs may be able to use the information to better investigate potential value-added agricultural enterprises.

The on-site case study interview was conducted by the project's principal investigator. Specific details of the business are masked in this report to insure anonymity of the participants. The figures included in this report have been changed slightly to insure the confidentiality of the cooperator.

## **Introduction**

The production of fruit in Tennessee, specifically apples and peaches, is relatively small when compared to national production. In 1998, 5,298,600 tons of apples and 1,175,450 tons of peaches were grown in the U.S. Forty-eight percent of the nation's apple production is produced in the state of Washington (2,564,522 tons). Sixty-three percent of the nation's peach production is produced in California (325,000 tons), South Carolina (70,000 tons) and Georgia (35,000 tons). Tennessee's annual production of

apples and peaches was 6,250 tons and 1,600 tons, respectively, in 1998 (NASS).

Per-capita consumption of apples and peaches was approximately 18 pieces of fruit in 1998. The highest point of apple and peach consumption occurs in the late summer and fall months—August through December. These four months represent the peak season for sales of fresh, Tennessee-grown apples and peaches.

Recent marketing trends by Tennessee fruit growers have included increased retail sales and decreased wholesale sales. One of the primary forces

behind this trend was the development of long-term storage by competitors in the major growing areas of Washington and New York. Long-term storage allows large-scale apple producers to store product almost year round. Then, shortly before harvesting begins, the remaining stored fruits are dumped on the market to clear space for the new harvest. Unfortunately for Tennessee producers, this commodity dumping occurs at the time that most varieties grown in Tennessee are ready to harvest<sup>11</sup>. Therefore, high-cost, freshly-harvested fruits must compete with low-cost stored fruits. As a result, many fruit producers in Tennessee are looking for new markets to obtain a better return on their investment. Local retail stores represent one market alternative for Tennessee-grown fruit to be sold at higher profit margins than through wholesale markets.

Another expanding market that Tennessee fruit producers are gradually expanding into is the area of value-added products made from their own commodities. These products include fresh fruit pies, cider, dried goods, jams, jellies, preserves and many other products. By adding value to their commodities, producers are gaining a greater profit margin than is possible by selling the commodity to the wholesale market.

## **Business Overview**

The owners of The Fried Pie have a long history in agriculture. The family has been raising apples and peaches since the

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<sup>11</sup>The harvest in Tennessee is usually before the harvest in northern states, therefore it occurs at the same time as the dumping of the previous year's harvest.

1960s. As the family expanded (marriages, children entering the business) during the 1970s, the family decided to take the orchard business in a new direction.

During this time, the national wholesale fruit market began to change, due to the development of long-term storage capabilities in the Northwest. Therefore, as a result of increased supplies of apples year round, the price for fresh apples took a major dip. This drop in price was the main reason The Fried Pie decided to consider business alternatives. The owners were committed to making adjustments to remain competitive in apple and peach markets.

The Fried Pie increased its fruit production by purchasing an additional 75 acres. However, in the orchard business, an additional 75 acres is not a short-term solution, rather a long-term commitment. An important factor in considering additional orchard acres is that it takes several years of growth before the trees are at full production. Peach trees typically have to grow for four years before they are able to produce one bushel of peaches per tree; apple trees need up to six years before they are producing seven bushels per tree.

The Fried Pie gradually increased the proportion of its products that were sold directly to the consumer from its on-farm store. Instead of just selling fresh fruit to wholesale buyers, the business moved into direct sales from the farm to consumers. Selling the fresh fruit from an on-farm market enhanced the profit margin per unit of production considerably (a bushel of peaches can be sold retail for \$30 to \$50. While wholesale prices have been around \$28 per bushel in recent years).

In the early 1980s, as the demand for their farm-fresh fruit increased, the owners decided to consider adding fresh value-added products to the business. They had what

they felt was a great family recipe for fried fruit pies. The family recipe was used to develop a new recipe suitable for mass production. They purchased and modified a small concession wagon to make fresh fried pies. The owners took this concession wagon to county fairs and state parks. They later built a building for on-farm production of fried pies, along with a retail area.

Currently, the fruit production aspect of the business is split into peaches and apples (1/3 in apples, 2/3 in peaches). The apple trees are semi-dwarfs planted 113 trees per acre, while the peach trees are planted 100 trees per acre. Average yields are approximately 300 bushels per acre of peaches and 790 bushels per acre of apples. The Fried Pie still sells a majority of its fruit production as fresh produce. Approximately 50 percent of the production is sold to wholesale buyers; and 40 percent is sold directly to consumers from the on-farm retail store. Approximately 10 percent of the total fruit production is used as the primary ingredient for the business's primary value-added product, fried pies.

### **Start-up of the Value-added Enterprise**

After perfecting the family recipe for mass production, the entrepreneurs of The Fried Pie decided to make a long-term investment in the value-added business by developing a commercial kitchen facility. It may seem reasonable to think that a recipe used in the home will be suitable for mass production, but this is usually not the case. Making large batches of a recipe for mass production usually requires changing the recipe some to get large amounts of product that are uniform and suitable for sale. The facility was designed, built and furnished to meet food processing regulations. The

commercial kitchen was designed and built on the farm and included space to sell both fried pies and fresh fruit direct to consumers. The kitchen measured 30' by 40' for a total square footage of 1200 feet. The building includes separate areas for fried pie production, storage and an office. The equipment in the building includes: venting hoods, kettles, fruit peeler/corer, pie-making machine, dough-cutting machine, tables, freezers, a personal computer and a fax machine.

The Fried Pie did not start with all of this equipment. The owners started on a small production base and increased production as they expanded their market. The equipment needs were determined as production increased. The type of equipment needed for larger production was determined from research on the Internet and trade publications.

Two electric venting hoods were installed in the kitchen to properly vent the cooking area of heat generated by the steam kettles. The fruit peeler/corer is a machine that holds four pieces of fruit at a time and peels and cores the fruit. Two gas-powered, steam-jacketed, 40-gallon kettles are used as the primary cooking equipment for the pies. The pie-making machine and the dough-cutting machine were custom built and achieve very consistent end-products (produce identically-sized pies ready for baking). Two stainless steel tables are used for rolling dough by hand and general work areas. One large walk-in freezer, 30' by 40', was included for storing ingredients before processing and for storing cooked and uncooked pies before sale. A personal computer and a fax machine were purchased for record keeping and ordering.

A detailed listing of the start-up expenses for the processing building and equipment are presented in Table 12. The

cost of the 1200-square foot building is estimated at \$35,000, while the processing equipment totals just over \$147,000.

<b>TABLE 12: PROCESSING START-UP COSTS FOR FIXED ASSETS (1999 DOLLARS)</b>	
Steam kettles (2) and gas units	\$12,000.00
Venting hood	\$8,000.00
Fruit peeler/corer (4-cup)	\$24,000.00
Mixer	\$3,000.00
Pie-maker	\$25,000.00
Dough cutter	\$3,500.00
Walk-in freezer	\$70,000.00
Computer	\$2,000.00
Fax machine	\$150.00
Building (1200 square feet)	\$35,000.00
<b>Total Processing Start-Up Cost for Fixed Assets</b>	<b>\$182,650.00</b>

The retail area of the building measures 30' by 50'. The retail space was designed to include three home-made, 8-foot tables to display fresh fruit, fried pies and a multitude of other products purchased off the farm for re-sale. The three display tables hold fresh apples and peaches for retail sale. The tables are made with dividers that separate the various varieties of fruit. In addition to the display tables and approximately 40 linear feet of shelving, a

cash register was the only other equipment needed in for the retail area. A listing of the start-up costs for the retail business is presented in Table 13.



<b>TABLE 13: RETAIL START-UP COST FOR FIXED ASSETS (1999 DOLLARS)</b>	
	<b>NEW COST ESTIMATE</b>
Display Tables (Three 8 foot long display tables)	\$600.00
Shelving (40 linear feet)	\$2,000.00
Cash Register	\$700.00
Building (1400 square feet)	\$28,000.00
<b>Total Retail Start-Up Cost for Fixed Assets</b>	<b>\$31,300.00</b>

## Making Fruit Pies

Before any apples or peaches are sold to consumers, the fruit must be considered safe for human consumption. Regulations concerning the safety of fresh fruit or fruit to be used for processing deal primarily with acceptable levels of pathogens when pesticides, herbicides and fungicides are applied before harvest. The owners of the Fried Pie checked with the University of Tennessee at Knoxville for details concerning these regulations.

Apples should be washed and brushed. This decreases the amount of residues on the apple and makes the product more appealing to consumers. Apples have a natural wax that can oxidize, making the apple appear dirty. Both apples and peaches should be placed in cold storage to reduce the bacterial load both on and in the fruit. Dropped fruit (fruit which has fallen off the tree before harvest) cannot be used for processing or sold to consumers.

All processing steps must follow good manufacturing practices (GMPs). Typical GMPs include: washable floors, walls and ceilings; proper air ventilation; covered light fixtures; three compartment sink; storage of chemicals; and personal hygiene factors. The regulations regarding food processing are available from the Tennessee Department of Agriculture, Division of Food Safety.

The exact recipe The Fried Pie uses to make its pies is confidential information. However, a typical recipe would include the following ingredients: 1) the crust is composed of pastry flour, salt, water and either lard or shortening, 2) the filling is made from fruit, water, sugar, cinnamon and salt.

The dough is made in two steps: first, the dry ingredients for the dough are mixed together in large batches and can be stored

for one to two days before use. The liquid ingredients are added to the dry dough to make enough dough for the day. The dough is then placed in the mixer and mixed well. After mixing, the dough is hand-rolled into sheets, put on the pie-maker, which deposits exactly the same amount of filling needed per pie, folds the dough over the filling, cuts the folded-over sheets of dough into identical sized pies and finally crimps the pie edges.

The filling is made throughout the summer as the fruit harvest occurs. The apples and peaches are put through cold storage, washed, then peeled and cored. Two to six people handle the fruit during this stage of making the filling<sup>12</sup>. One employee works six to eight hours a day making the filling. During periods of high pie production, the cooking has run 24 hours a day. Some of this filling is used immediately; some of it is frozen for use later in the year. It takes between four to six hours to cook each batch of filling.

The pies are then covered in plastic wrap, boxed and placed in the walk-in freezer and allowed to freeze overnight. The boxes of unbaked pies can be frozen for months if necessary. When the pies are to be cooked, the pies are removed from the freezer and baked from their frozen state. After baking, the pies are wrapped two to a package and placed in the retail area for sale. The baked pies can be frozen for up to three weeks. The entire process requires the labor of six to eight employees at The Fried Pie. The variable costs per fried pie are detailed in Table 14.

The Fried Pie's initial production was on a very small scale and expanded with

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<sup>12</sup>The labor used for this step depends on the number of pies to be made. During periods of high productivity, six laborers are used.

increased demand. The company now produces approximately 200,000 fried pies per year. A typical day of fried pie production includes:

- three to four hours of pie production
- two to three hours spent packaging the pies and one to two hours of clean-up.



The Fried Pie can produce 500 pies per hour and typically makes pies three days a week. They usually like to keep 6,000 to 8,000 pies on hand (a combination of uncooked frozen pies and cooked pies ready for sale).

<b>TABLE 14: VARIABLE COST PER FRIED PIE</b>	
Ingredients	\$0.30
Packaging	\$0.10
Labor	\$0.17
<b>Total Variable Cost Per Pie</b>	<b>\$0.57</b>

### General Operating Activities

In addition to the direct recipe ingredients for the pies, a significant complement of operating activities are needed to run the fried pie enterprise. First, money should be allocated for repayment of the initial start-up expenses. Assuming that the total start-up investment of \$182,650 was borrowed at a 9 percent interest rate for a 20-year period, an annual payment of \$20,009 must be made to provide a commercial, inspected production facility. Gas, water and electricity payments must also be paid throughout the year. Other expenses incurred in the general operation are detailed in Table 15.



<b>TABLE 15: ANNUAL FIXED COSTS FOR PIES &amp; RETAIL FRUIT</b>	
Utilities (water, garbage, electric, & pest spray)	\$15,000.00
Propane gas	\$2,200.00
Freight	\$1,000.00
General supplies	\$7,000.00
Legal fees	\$4,500.00
Telephone	\$2,000.00
Worker's compensation	\$4,080.00
Insurance	\$5,000.00
Marketing	\$5,000.00
General office	\$800.00
Repair & maintenance.	\$4,300.00
Payroll taxes	\$2,800.00
Sales taxes	\$12,000.00
Licenses & taxes	\$1,000.00
Travel	\$500.00
<b>Subtotal Annual Operating Cost</b>	<b>\$67,180.00</b>
<b>Loan Repayment (9% over 20 years)</b>	<b>\$20,009.00</b>
<b>Total Annual Operating Cost</b>	<b>\$87,189.00</b>

## Marketing

The Fried Pie uses two primary marketing avenues: wholesale and retail. Both fresh fruit and fried pies are sold to each market. On the average, wholesale fruit prices are 10 percent lower than retail prices. Approximately 50 percent of the orchard's total annual production and 45 percent of the annual fried pie sales are wholesale. The Fried Pie's wholesale market for fresh fruit is national wholesalers, while the wholesale fried pie market is primarily national distributors, gift basket operations and small retail stores. All of The Fried Pie retail sales are through the on-farm store. The average retail price of a single fried pie is \$1.40. Many advertising and promotional activities are used by The Fried Pie to increase consumer awareness of products. For the

first few years of operation, the entrepreneurs traveled throughout the region selling fried pies and fresh fruit from a small wagon at regional fairs and trade shows. In conjunction with the trade shows and fairs, the owners also sold their goods at state parks and distributed information about their retail store.

Once the initial customer base was established, the owners of The Fried Pie visited small regional retail stores, recruiting them to carry to the product. The next step was to contact national distributors. With the backing of the established customer base, The Fried Pie was able to convince national distributors to carry its product. The business has contracts with several distributors. The advice of the owner on the wholesale market is:

*“Don’t put all your eggs in one basket. Read the written agreements carefully, research the company you’ll be dealing with to make sure that it’s a company you want your name to be affiliated with, and know the laws applying to your product and distribution.”*

The customers who visit the retail store are often retired people who are traveling and decide to stop for some fresh fruit or fried pies. Located within 100 miles of the retail store are several large communities (two of them have populations of more than 100,000). The Fried Pie is located seven miles off of the only major road to a Tennessee state park. The Fried Pie also distributes promotional brochures at the state park.

Before opening the retail store, the owners realized there was a great possibility of tour buses stopping at the retail store due to their location. They made sure the retail store was big enough to accommodate large groups. The tour buses provide a large segment of The Fried Pie’s business. The Fried Pie distributes promotional material from the retail store to customers and potential customers. By providing mail-order sales, The Fried Pie is able to reach a large customer base, as tourists will often order products after they return home.

### **Break-even Analysis (Table 16)**

Break-even analysis is based on two types of costs: fixed costs and variable costs. Fixed costs are overhead-type expenses that are constant and do not change as the level of output changes. Variable costs are not constant and change depending on the level of output. Three pieces of information are needed to evaluate a break-even point:

average per-unit sales price, average per-unit variable cost and annual fixed cost. The average sales price for each fried pie is \$1.40. The average per-unit variable cost for each fried pie is \$0.57. The total annual fixed cost for The Fried Pie is \$89,189. For the business to break-even, approximately 105,047 fried pies must be sold each year ( $\$89,189 / (\$1.40 - \$0.57) = 105,047$ ).



<b>TABLE 16: BREAK-EVEN ANALYSIS FOR FRIED FRUIT PIES</b>	
Total variable cost/pie	\$0.57
Total annual fixed cost (allocated to fried pies)	\$89,189.00
Sale price of a fried pie	\$1.40
<b>Break-Even Number of Pies</b>	<b>\$105,047.00</b>

The Fried Pie also generates income from the sale of numerous other products that are purchased off the farm. These products are typically purchased either from wholesalers or other value-added producers in the state. The products which The Fried Pie sells but does not make include:

pickled vegetables	syrops
popcorn	dried fruit
dates	figs
old-fashioned stick candy	nuts
trail mixes	chocolates
relishes	saucos
preserves/jellies	salsa
apple butter	

The annual cost of these products is approximately \$190,000. The average markup by The Fried Pie is 30 percent. These products account for up to 30 percent of gross sales.

### Needed Market Research

Many burgeoning markets are available for producers of fresh fruit and value-added fruit products to take advantage of: retail stores located on the farm property, contracts with state parks to carry their products, mail-order sales and gift basket operations. The second phase of this study will examine possible linkages between gift basket sales and fruit producers and producers of value-added fruit products.

What type of customers purchase gift baskets? What are the best times during the year for gift baskets containing fresh fruit to be promoted? What is the best mix of products to put in fruit gift baskets? These are all questions that will be addressed in the second phase of the FSMIP project.

### Summary of Main Points of the Case Study<sup>13</sup>

- Decreased sale prices for fresh fruit in the wholesale market are causing fruit producers to look for higher profit potential activities.
- Value-added fruit products have a higher profit potential than do wholesale sales of fresh fruit.
- Be sure to start production of new value-added products at a low level and increase production as sales increase.
- Many laws and regulations affect the production and distribution of products for human consumption. Entrepreneurs should have complete understanding of how these laws and regulations affect their business.

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<sup>13</sup>Developed from personal interviews with the case study participants.

- Recipes for mass production must result in a consistently uniform product.
- Location for a retail store is very important; a highly visible and easily accessible store attracts more customers.
- Selling products through mail order can be a very productive method of increasing the customer base.
- Marketing is essential to capturing market share in the value-added, fruit-product industry.
- Advertising and promotion from attending county fairs can be critical to the success of the business, both at start-up and for increasing and retaining the customer base during the later stages of the business cycle.

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## Conclusions

Successful value-added agriculture entrepreneurs have various backgrounds, interests, skills and aspirations. The value-added businesses these entrepreneurs own and operate are also diverse. Like its' overall agricultural production industry, Tennessee has a variety of value-added agricultural business enterprises, with very little concentration in a single commodity. Farmers and agri-entrepreneurs add value to Tennessee agricultural production industry by undertaking a variety of processing, packaging and marketing tactics.

The Tennessee winery industry provides a stable market for Tennessee-grown grapes. Grape growers and winery operators benefit from the value-added opportunities presented by the demand for Tennessee wine. Tennessee's southern reputation for quality meat products cured in "old-fashioned" methods also provides opportunities for value-added enterprises in the pork industry. In addition, a catfish farmer who harvests and processes quality fish and sells directly to consumers through an on-farm restaurant is able to add significant value to the live catfish commodity that might normally be sold from the farm to a wholesale market before it enters and exits numerous profit-generating channels prior to consumption. Similarly, an orchard operator that processes fruit into fruit products such as fried fruit pies adds value to the fresh fruit commodity by extending the season in which revenues are generated from the fruit, increases the income received from the commodity and better competes with produce from larger-producing states.

Some of the characteristics of success common among the four cases studied in this project include:

- ▶ the businesses seemed to experience growth and mature over an average eight-year period.
- ▶ the average age of the entrepreneurs is mid to late 50s.
- ▶ entrepreneurs have a strong desire, interest and commitment to the long-term success of the business.
- ▶ identification of specific target markets is critical to product positioning.
- ▶ management of cash flow was extremely critical in the early years of the businesses and in the later years for those businesses with highly seasonal sales.
- ▶ quality control, consistent and large-volume production were critical issues in the development of overall production systems.
- ▶ an in-depth understanding of and compliance with a variety of regulations are needed.
- ▶ most direct costs for marketing and promotion were incurred in the early years of business operations.
- ▶ word-of-mouth advertising seems to be the most effective long-term marketing and promotion tool.
- ▶ the value-added businesses were built on a philosophy of "let the business grow with the market (demand for the product) over time."

# Implications

Existing, new and potential value-added agricultural enterprises can learn from the experiences of the business cases evaluated by this study. These businesses made relatively substantial investments in marketing and promotion activities in the early years of business growth. Initial print advertisements, travel and human resources were invested in the initial thrusts of the new businesses on the market. After significant initial investments in marketing and promotion efforts to get the businesses recognized in the marketplace, positive word-of-mouth advertising seems to carry the enterprises in the maturing years. While start-up costs were fairly significant investments for the entrepreneurs, initial costs were consistent with the production capacities needed. That is, the businesses were built to satisfy relatively small-volume sales in the early years and expansion in production capabilities was a result of increased sales over time. The businesses collectively expressed the benefits gained from being able to identify the specific target customer who preferred their product. Regulatory compliance, quality control during production/processing, cash-flow management and consistent products were all identified as factors critical to the success of the value-added business.

For additional information regarding the case studies in the report, the overall FSMIP project or Tennessee value-added agriculture feel free to contact The University of Tennessee Agricultural Development Center at (864) 974-3824.

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