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How farmers in West Virginia are using value-added processing to increase annual income

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**How Farmers in West Virginia Are Using Value-added
Processing to Increase Annual Income**

Jennifer L. Lewis

Thesis submitted to the
Davis College of Agriculture, Forestry, and Consumer Sciences
at West Virginia University
in partial fulfillment of the requirements for the degree of

Master of Science
in
Agriculture Education

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ABSTRACT

How Farmers in West Virginia Are Using Value-added Processing to Increase Annual Income

Jennifer L. Lewis

The purpose of this study was to describe methods of value-added processing being employed by farmers in West Virginia, the amount of interest in value-added processing as expressed by agriculture extension agents and farmers, and identified the number of value-added producers in West Virginia. The population targeted with the initial survey consisted of 28 agriculture extension agents in West Virginia representing 55 counties. The second telephone survey was directed to value-added producers within the state. From this data, four farms, Thistledew Farm, Kelly Smith, Headwater Farms and Higson's Farm, were chosen to participate in case studies. Value-added producers were identified in 21 counties for a total of 209 producers. It was found that agents were interested in increasing value-added processing in their counties and would like more information on advising farmers in value-added ventures. The majority of agents surveyed, 25 of 27, reported that some interest in value-added processing had been expressed to them by farmers in their areas.

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TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vii
CHAPTER I: INTRODUCTION	1
Background and Setting.....	1
Statement of Problem.....	3
Purpose of the Study	3
Objectives	4
Definition of Terms.....	4
Limitations	5
CHAPTER II: REVIEW OF LITERATURE	6
CHAPTER III: METHODOLOGY	12
Purpose.....	12
Objectives	12
Research Design.....	12
Population	14
Instrumentation	15
Data Collection Procedures.....	15
Data Analysis	16
CHAPTER IV: FINDINGS	17
Introduction.....	17

Agent Information.....	18
Interviews with Producers.....	22
Case Studies	23
Summary	25
CHAPTER V: CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS	27
Introduction.....	27
Conclusions.....	28
Implications.....	30
Recommendations.....	31
REFERENCES.....	33
APPENDICES.....	34
APPENDIX A	
Initial Letter to County Agriculture Extension Agents.....	35
APPENDIX B	
Agriculture Extension Agents' Questionnaire	37
APPENDIX C	
Value-added Producers Telephone Interview Introduction	41
APPENDIX D	
Value-added Producers Telephone Interview Questions.....	43
APPENDIX E	
Value-added Producers Case Study Interview Introduction.....	45
APPENDIX F	
Value-added Producers Case Study Interview Questions.....	47
APPENDIX G	
Value-added Producers in West Virginia	49
APPENDIX H	
Case Study # 1 – Thistledew Farms.....	53

APPENDIX I

Case Study # 2 – Hopping Acres56

APPENDIX J

Case Study # 3 – Headwater Farms, LLC.....59

APPENDIX K

Case Study # 4 – Higson’s Farm62

VITA64

LIST OF TABLES

Table 1	
Value-added Processing, Answers of Agents	21
Table 2	
Percent Expressed Interest in Value-added Processing	22
Table 3	
Types of Value-added Processing in WV	23
Table 4	
Number of Farmers	24
Table 5	
Value of Agricultural Products Sold Directly for Human Consumption, Other States	32

CHAPTER I

INTRODUCTION

Background and Setting

Traditionally the Appalachian region, and West Virginia in particular, has suffered with exploitation of natural resources, commonly coal and timber. This is especially true of West Virginia agriculture. The majority of products grown in West Virginia are exported from the state by way of the commodity market. This occurs because farmers typically are not equipped to assume the transportation, processing, and packaging of their products (Mortenson, 1977). The processes (such as curing meats, making cheeses, producing jams, jellies, salsas, packaging, marketing, etc.) that add value to the beef, dairy products, fruits, and vegetables grown in West Virginia typically occur in other states.

This on-going phenomenon causes West Virginia's farmers to be price-takers instead of price-makers. The money generated from value-added processing of West Virginia agricultural goods typically is not returned to the local communities and farmers from which the commodities were produced. This has not only forced many farmers to obtain off-farm occupations to supplement their income, but has also contributed to the decrease in total number of farms in West Virginia during the last few decades. Census data for 1997 reports that in 1964 there were 34,504 farms in West Virginia. In 1997 this number had dropped to 17,772. Farms are currently defined as any place from which \$1,000 or more of agricultural products are grown and sold, or normally would have been sold, during the census year.

In addition to the decrease in total number of farms, many farmers in West Virginia have been forced to find other occupations off the farm, as a means of supplementing income. In

1974, 55% of farmers had off-farm jobs. By 1997 this number had risen to 60% of farmers with a secondary occupation. In addition, in 1913 the farmer received 46% of the consumer food dollar. By 1997 the farmers' share dropped to 20% (Census of Agriculture, 1997).

Between 1880 and 1920 farm families increasingly abandoned or were forced off the land and into wage labor, and West Virginia agriculture began its precipitous slide toward marginality...then the railroads penetrated the region, introducing steam power and greatly expanding production. Since the capital required for this next level of steam-powered transportation was scarce in the sparsely populated mountains, external capital investment was required, which meant absentee ownership (Lewis, 1998).

Efforts to overcome these challenges have included attempts to develop industry and manufacturing operations. Large multi-national manufacturing operations however, often require considerable incentive, and may lead to a loss of community control over economic decisions.

Increasingly West Virginia farmers, along with agriculture extension agents, have expressed interest in value-added processing within their local regions as a means of increasing farm income and circulating more local community dollars. Value-added processing refers to the changing of raw products in such a way as to increase its value when sold to the consumer. Entrepreneurship of this sort may also lead to substantial increases in dollars generated from agritourism. Many farmers are already taking steps in this direction by forming limited liability corporations and working with local processors to create desirable value-added products in their own communities. In some areas farmers are also creating quality value-added products on their own farms, such as cheese, ice cream, jams, jellies, etc. At the present time, little research has been completed in the area of methods in which West Virginia farmers can or are using value-added processing as a means of increasing income. The results of this study can help farmers and extension personnel better

understand some of the methods that can be used to aid West Virginia farmers and rural areas in general.

In addition to generating greater income, circulating community dollars, and attracting agritourism, farmers can also benefit from an increased knowledge of direct marketing strategies. By actively taking part in economic, marketing, and processing decisions, farmers in West Virginia can begin to break away from the detrimental pattern of buying retail and selling wholesale.

Statement of the Problem

How are farmers in West Virginia using value-added processing to increase annual income? Farmers in West Virginia appear to be unaware of the economic benefits that can result from using value-added processing in marketing their products. This is evidenced by the relative lack of research data available dealing with West Virginia farmers and value-added products when compared with surrounding states. Extension personnel and university faculty could benefit from an increase in available information on this topic. The information can be dispersed to farmers as a method of introducing producers to new ideas in marketing of agricultural products. By employing value-added processing techniques and marketing strategies, rural West Virginia can open new markets, create recognition and appreciation for the farm, and extend the marketing season. By changing the way farmers market their commodities, the amount of income received can be drastically increased (Maetzold, 2000).

Purpose of the Study

The purpose of this study was to identify the extent value-added processing was being used by West Virginia farmers. This study also explored the amount of interest in value-

added processing expressed by farmers and agriculture extension agents in West Virginia.

Objectives

The objectives of this study included:

1. Identify the number of farmers in West Virginia involved in value-added processing.
2. Identify the types of value-added processing that farmers in West Virginia are using to increase annual income.
3. Identify the interest in value-added processing among farmers and agriculture extension agents in West Virginia.
4. Describe benefits and risks for farmers associated with value-added processing as expressed by case study participants.

Definitions

Agritourism- any business or activity that invites visitors to come on to a farm, ranch, or into a rural community to enjoy agricultural and natural resources.

Commodity market- market in which physical or actual commodity is sold, as distinguished by a futures contract, usually sold in raw, non-processed form.

Direct marketing- marketing from farmer directly to consumer. Typical forms are farmers' markets and roadside stands, or delivery to consumers or restaurants.

Farm- as of 1997, any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.

Gourmet foods- foods associated with the specialty food trade, usually processed in small batches to be marketed to a high-value niche market.

Non-traditional crops- also called specialty crops, usually crops covered by a marketing order.

Value-added agriculture- getting more income from your commodity and the natural resources on your farm in a sustainable manner.

Value-added products- in general, products that have increased in value because of processing. Examples are consumer ready food products such as jams, jellies, cheeses, processed meats. The terms value-added and high value are often used synonymously.

Limitations

The case study portion of this research was limited to farmers currently involved in production in West Virginia during the 2001-2002 time frame, and known by county Agriculture Extension Agents.

The survey portion of this study was confined to all agriculture extension agents in West Virginia currently employed during the 2001-2002 time frame.

CHAPTER II

REVIEW OF LITERATURE

For many years the farmers of West Virginia have dealt with increased challenges when trying to ensure profits for their products. The rises in value of agricultural commodities pale in comparison to the rising costs of equipment, fossil fuels, shipping costs, and labor. With these challenges comes the responsibility of extension personnel, university faculty, and other agricultural professionals to assist in finding remedies for the problems faced by today's farmers. One possible remedy may be found in the form of adding value to raw commodities for sustainability in agriculture (Maetzold, 2000).

Currently in West Virginia there are approximately 20,000 farms. The products produced from these farms is estimated to generate \$34,884,000 in net farm income per year. Of the products produced annually in West Virginia, less than 1% is sold directly from the farmer to the consumer. This leaves 99% of raw commodities sold to brokers or wholesalers. The inclusion of these middle-men results in less return on investment for the farmer (King, 2000).

Less profit generated from agricultural products naturally inhibits production of these products. In 1997 data generated from agricultural statistics reported an average value of sales per farm at \$25,176. The average value of expenses per farm was reported at \$21,375. This leaves an average profit of just \$3,801 per farm per year (Census of Agriculture, 1997). During 1999 and 2000 the West Virginia Department of Agriculture reported record lows in number of milk cows, corn harvested for grain, corn grain production, number of hogs and pigs, honey production, oat production, all sheep and lambs, winter wheat, and wool production (King, 2000).

The 1999 Fruit Summary reported that 110 million pounds of apples were produced in West Virginia during the 1998 harvest. Of this number, 17 million pounds were produced for the fresh market, meaning sold as whole apples for fresh, unprocessed consumption. Ninety million pounds were reported as the quantity processed (King, 2000). The price of fresh market apples was \$318 per ton, while the price paid to the farmer for apples to be processed was \$155 per ton. This means that 84% of the utilized apples in west Virginia was sold at the lower price.

In 1999, 13 million pounds of peaches were produced. Of this number, 12.3 million pounds were utilized, while .7 million pounds were either not harvested or harvested and not used. At a price of 30.3 cents per pound, this resulted in a loss of \$212,100 for West Virginia peach growers (King, 2000).

If fruit growers could utilize value-added processing in their local areas they may be able to get a higher price for fruit that would normally be sold to wholesalers or brokers for processing. They may also be able to use all of the fruit produced, helping to eliminate lost dollars from unharvested or unsold fruit.

In the dairy industry, 272 million pounds of milk was produced. Virtually all of this milk was marketed to plants or dealers, while a nominal amount was sold directly to the consumer. No figures were available for direct marketing of beef cattle or vegetables (King, 2000).

Most of West Virginia's key agricultural products poultry, cattle, timber, and fruit are sold wholesale in the commodities market. Retail sales and direct marketing account for less than one percent of the farmers' income. At the same time, all of the region's consumer food products are imported into the state, with the exception of hunting seasons and family gardens (Schaeffer, 2000, p. 5).

It is estimated that America's farmers receive on average, only 22 cents of every dollar spent on food. The remaining 78 cents is spent primarily on processing, packaging, transporting, and marketing... In some states as much as 90 percent of all fresh produce is imported

from other areas. A similar percentage of meat and grain comes to the consumer, via grocery stores and large packing houses (Expanding Local Markets, 2001).

Building greater profits by adding value to raw commodities is an innovative method of agriprenurship, and may serve to support the West Virginia farmer into the future.

Agriprenurship is the profitable marriage of agriculture and entrepreneurship, more plainly, turning your farm into a business...Agriprenurship is a mental attitude that can give you the strength and motivation to break from tradition. Sustainable agriculture is a site specific, whole farm approach to agriculture. Land, people, goals, capital, crops, and livestock are managed to yield the best possible results on the farm (Macher ,1999, p. 127).

Value-added processing may prove a viable and beneficial alternative to traditional commodity marketing. The term value-added refers to any process or procedure that (1) changes the way a commodity is marketed (2) changes the form of the commodity before it is marketed (3) changes the way the commodity is packaged for market (4) grows the commodity for a special market or (5) adds a new enterprise (Maetzold, 2000).

Adding value to agriculture production contributes to farm, and community economic and environmental sustainability. It increases farm sustainability. Adding value to an agricultural product offers farmers the opportunity to receive a bigger share of the consumer's food dollar. The farmers' share has dropped from 46% in 1913 to 20% in 1998 according to the USDA Economic Research Service...Value-added products can open new markets, create recognition and appreciation for the farm, and extend the marketing season...Value-added agriculture is very important to any local economic development strategy. Secretary Glickman stated at the Outlook Forum 2000, Feb. 24, 2000 that "A new farm policy must go beyond the wheat, rice, and cotton programs...by providing more rural economic opportunity, whether it's in farming, retail, tourism, or Internet start-ups (Maetzold, 2000, pp. 5-6).

Many substantial benefits may be gained from entering a value-added enterprise. Adding value for sustainability may capture a larger share of the consumer's dollar, create logical

extensions of farm businesses, provide a means for small farmers to compete with larger scale operations, sustain the local community, and provide a key local economic development strategy.

However, like any business venture, there are risks associated with value-added agricultural products. Farmers need to be aware of these possible risks in order to better prepare themselves and their potential businesses.

Any activity that requires the public to come onto your farm...creates a need for increased insurance. Also one needs to keep a very important point in mind when processing fruits, vegetables, dairy products, or meats. The products increase safety risks and require understanding and satisfying Federal and state rules and regulations (Maetzold, 2000, p. 7).

Some keys to success in value-added processing may include:

- Choosing something you love to do
- Follow demand driven production
- Create a high quality product
- Start small
- Establish a loyal customer base
- Get the whole family involved

It would appear that, from the available data, traditionally this topic is researched utilizing a case study approach. Farmers in areas surrounding West Virginia have begun to enter the value-added industry in several ways. One farm in Sparks, Maryland began raising pasture-fed chickens and marketing free-range eggs. Another West Friendship, Maryland farmer began using his land, with the help of his family, to create a catering facility. They also provide facilities for picnics, weddings, and meetings. In Bernville, Pennsylvania one dairy farm offers direct marketing of milk and ice cream, and even has a rural delivery route. Growing specialty and organic crops, fee fishing, wetland creation, selling through cooperatives, and forming limited liability corporations have also been studied as possible methods of value-adding (Conserving the Past and Developing the Future, 2000). Any or all of these activities and

enterprises may serve to encourage the public to come onto farms and into rural areas. Not only will this increase community dollars through agritourism, but will increase knowledge and appreciation of the farming community.

According to Hampshire County Agriculture Extension Agent Bob Cheves, the Eastern portion of West Virginia is beginning to become very active in value-added processing. Petite Beef is one value-added product that has been doing very well in recent years. This product is sold direct to consumers by Headwater Farms, a limited liability corporation of beef farmers in that local area. Also in the same area is Gourmet Central, a processing plant which purchases fruits, vegetables, and mushrooms from local growers in a farmer owned corporation called Highland Harvest. (Bob Cheves, personal communication, August 23, 2000).

The agricultural industry is as old as America. Generations before Columbus discovered the New World, natives of the Western Hemisphere grew maize, squash, and root crops. Our ancestors tilled the soil for subsistence and later embraced farming as a vocation. Over the years, because of scientific breakthroughs, new technologies, and improved systems, the number of people employed in farming has declined; still, the business of farming remains vital to our well being as a people and a nation.

Most of America's nearly two million farms are considered "small", with seven out of ten grossing less than \$50,000 a year. Despite their preponderance, operators of small farms have often felt neglected by our national farm programs. Sources of advice for farmers starting out have about dried up, with agricultural county agents admitting that they have time to service only full-time farmers- a group whose numbers are declining. The state departments of agriculture have marketing advice aplenty but are of little help to newcomers asking questions about credit, cropping recommendations, and cultural information. Needed are individual human beings whose hands are on the rural pulse and who have lots of information in their heads, but it remains to be seen who will train them or who will pay them. Today, as well as tomorrow, the most important piece of farm equipment is knowledge (Macher, 1999, pp. 1-2).

There is a lack of knowledge dealing with types of value-added processing being done among West Virginia farmers. This stems from the lack of research done in this area. The completion of this study will identify ways in which farmers in West Virginia, and other areas, are using value-added processing to increase annual income. By bringing these methods to light, farmers may benefit from an increased marketing knowledge, enhanced sustainability, and increased opportunity for young farmers to remain in West Virginia and build successful agricultural enterprises.

CHAPTER III

METHODOLOGY

Purpose of the Study

The purpose of this study was to identify the extent that value-added processing is being used by West Virginia farmers. This study also explored the interest in value-added processing expressed by farmers and agriculture extension agents in West Virginia.

Specific Objectives

1. Identify the number of farmers in West Virginia involved in value-added processing.
2. Identify the types of value-added processing that farmers in West Virginia are using to increase annual income.
3. Identify the interest in value-added processing among farmers and agriculture extension agents in West Virginia.
4. Describe benefits and risks for farmers associated with value-added processing.

Research Design

This study employed the descriptive research method of utilizing a survey and the case study approach. The survey portion occurred first, and was directed at all West Virginia county agriculture extension agents currently employed during the 2001-2002 time period.

The survey was used to gather information regarding the number of farmers involved in value-added processing in West Virginia, the relative amount of interest associated with value-added processing among West Virginia farmers and extension agents, and also what types of value-added processing West Virginia farmers are employing. Extension agents were mailed the survey during the month of February 2002, and given ten days to reply (see Appendix A) . Each survey included a cover letter explaining the study and the value of the information obtained, a self-addressed, stamped envelope, and questionnaire (see Appendix B). In addition, extension

agents were given working definitions of value-added processing, value-added agriculture, and what criteria to use when suggesting farmers to participate in the study.

Upon receiving the completed surveys, each one was read and evaluated by the researcher. From the data received, the total number of farmers interested in value-added processing was determined, as well as the amount of interest among extension agents. Also the number of farmers in West Virginia using value-added processing was tabulated, along with the types of value-added processing employed.

The names and contact information given by extension agents were used to select candidates for the case study portion of this research. Farmers, whose names were given by the county extension agents, were contacted by the researcher. Farmers were asked questions regarding their value-added enterprises (type, success, length of time involved) following an introduction and explanation of the research (see Appendices C and D). The farmers were then asked if they were willing to be involved in the case study portion of the research. The case studies entailed detailed interviews and site visits by the researcher.

The researcher identified four case study participants to participate in follow-up interviews and site visits. Following an introduction (see Appendix E), the researcher described the type of value-added enterprise, the relative success of the enterprise, who the products are marketed to, methods of marketing and advertising, what services are offered to the public, what motivated the farmers to get involved in value-added processing, and what steps they took to get started, as well as detailed descriptions and pictures of their farms and enterprises (see Appendix F).

To address objective # 4, farmers involved in the case studies were asked to describe the benefits and risks as they perceive them in relation to value-added enterprises. Also benefits and

risks as described in cited literature review were identified. Farms employing value-added processing in areas outside West Virginia were not included in the case studies involved in this research.

Population

As stated previously, the survey portion of the research involved a census of all West Virginia county agriculture extension agents currently employed during the 2001-2002 time period. Names and contact numbers for these extension agents were obtained by the researcher through the West Virginia Extension Headquarters located at Knapp Hall in Morgantown. Agriculture Extension personnel are traditionally very well informed in relation to types of farming occurring in their counties, and are familiar with farmers in their areas. They are also WVU faculty and have a good understanding of the importance of research in the effort to improve agriculture within the state. A census survey of all agriculture extension agents in West Virginia provided the most complete data for analysis. The surveys given to extension agents requested that they provide names and contact information for any farmers in their counties who were currently employing a type of value-added processing

From the data generated by the surveys of extension agents, the researcher chose the four most suitable candidates for case studies based on the responses of the farmers to questions asked by the researcher during the contact phone calls (see Appendix D). The researcher made an effort to involve farmers in the case studies whose enterprises differ from one another in type and scale, in order to create a larger scope for the study and provide the most information possible. Four farms were chosen for the case study portion of the research due to time constraints.

Instrumentation

The survey questions given to extension agents were created by the researcher. The survey was evaluated in relation to reliability of the instrument by field testing with five to ten Agriculture Extension Agents prior to mailing the surveys to all agents. The instrument used had a reliability coefficient of .85. Content validity of the survey questions was determined by a panel of four experts (agriculture education faculty at WVU) prior to mailing. The suitability of the population to the study has been addressed.

The questions asked to the farmers by the researcher in the selection process of case study candidates, and the questions asked to farmers participating in the case studies were reviewed by the same panel of experts to establish validity. Case study questions were asked to farmers to provide detailed information about enterprises in order to ensure maximum transferability to similar settings in West Virginia. Confirmability of conclusions drawn from data collected was addressed by graduate committee members. All instruments utilized were reviewed and approved by the Institutional Review Board prior to usage.

Data Collection Procedures

The surveys were mailed to extension agents on February 10, 2002, along with the cover letter, definitions of value-added processing, value-added agriculture, and criteria, with deadline for response by February 20, 2002. If agents did not respond by this date, they were given a follow-up phone call by the researcher inquiring about the status of the mailed survey. If the agents replied that they did not receive a survey or lost the original survey they were asked the survey questions over the telephone. Late respondents were compared to early respondents and decisions were made dealing with the inclusion of this data in the study.

Farmers, whose names were given by Extension Agents, were contacted after receiving all surveys, and case study candidates were selected by the researcher. During the months of March and April of 2002 the case study participants were visited and interviewed by the researcher. Research was completed in May of 2002.

Data Analysis

This study measured the amount of interest in value-added processing among agriculture extension agents and farmers in West Virginia, as well as identified the types of value-added being utilized in West Virginia. Data collected was analyzed using the PC version of the Statistical Package for Social Sciences (SPSS).

CHAPTER IV

FINDINGS

Introduction

This study utilized both a survey and case study approach in describing the methods of value-added processing being used by farmers in West Virginia. Specific objectives addressed through this research included identifying the number of farmers in West Virginia using value-added processing, identifying types of value-added processing being used, identifying the amount of interest in this subject area as expressed by farmers and agriculture extension agents, and describing the benefits and risks associated with a value-added enterprise as stated by the case study participants.

An initial census survey was sent to all West Virginia agriculture extension agents, along with a cover letter, definitions of terms, and address pages. A total of 28 agents were contacted with 27 responding (96.4%) representing 54 counties. The survey contained nine questions pertaining to value-added processing (see Appendix B). The agents were then asked to provide names and contact information for farmers employing value-added processing. A total of 43 farmers, corporations, and/or cooperatives were identified by the extension agents. All were contacted by telephone by the researcher as a part of phase II of the research. Four were selected for case studies which entailed a site visit and interview with the owners and operators of the enterprises. Case study participants were selected on a variety of factors including originality, type of enterprise, geographic location, success of enterprise, length of time in business, and adaptability for other farmers in West Virginia.

Agent Information

The first five questions on the survey sent to the extension agents focused on their interest and current involvement in value-added processing in their areas. When presented with the statement, “I am currently involved in increasing value-added processing in my county,” the majority of agents (37%) indicated that they strongly agreed. Twenty six percent replied moderately agree, 11% were neutral, approximately 15% moderately disagreed, and 11% strongly disagreed. The mean score for this statement was 3.63, indicating moderate agreement with this statement.

The next statement, “I would like to know how to advise farmers in my county to get started in value-added processing,” had a mean of 3.81. The majority of agents (48%) moderately agreed with this statement. Twenty-six percent strongly agreed. Both the neutral and moderately disagree categories had 11%, while 3.7% of agents strongly disagreed. The statement, “I would help a farmer in a value-added enterprise if they expressed an interest,” had the highest mean of all the statements at 4.63, which indicated strong agreement. Approximately 74% of respondents strongly agreed with this statement, and 18.5% moderately agreed. Moderately disagree and neutral responses had 3.7% each, and no agents strongly disagreed with this statement.

The fourth statement, “I would like more information on value-added processing,” had a mean score of 4.07. Forty-four percent of agents strongly agreed, and 37% moderately agreed. Neutral and strongly disagree both had 7.4%, while moderately disagree had 3.7% of respondents. The final statement, “I believe value-added processing has no place in my county,” contained the highest percentage (63%) of strongly disagrees. Twenty-six percent of

Table 1

Value-added Processing, Answers of Agents

	Strongly Disagree		Moderately Disagree		Neutral		Moderately Agree		Strongly Agree		X
	N	%	N	%	N	%	N	%	N	%	
Involve.....in Value-Added Processing	3	11.1	4	14.8	3	11.1	7	25.9	10	37.0	3.63
Need Help Advising Farmers in Value-Added Processing	1	3.7	3	11.1	3	11.1	13	48.1	7	25.9	3.81
I Would Help Farmers with Value-Added Processing	0	0.0	1	3.7	1	3.7	5	18.5	20	74.1	4.63
I Want More Information on Value-Added Processing	2	7.4	1	3.7	2	7.4	10	37.0	12	44.4	4.07
Value-Added Processing Has no Place in County	17	63.0	7	25.9	2	7.4	1	3.7	0	0.0	1.52

respondents moderately disagreed, 7.4% were neutral, and 3.7% moderately agreed. No agents strongly agreed with this statement (see Table 1).

When agents were asked what percent of farmers in their counties had expressed an interest in value-added processing, the majority, 23 of 27, reported a percentage less than 10%, with two agents reporting that no farmers had expressed an interest to them. One agent reported 10%, and one agent reported 15% of farmers in their area were interested in value-added processing. Of the 27 agents responding two reported 25% of farmers expressed an interest in a form of value-added processing (see Table 2).

Table 2

Percent Expressed Interest in Value-added Processing

	N	%
00%	2	7.4
01%	5	18.5
02%	1	3.7
03%	2	7.4
05%	2	7.4
07%	1	3.7
08%	1	3.7
10%	1	3.7
15%	1	3.7
25%	2	7.4
less 01%	1	3.7
less 05%	1	3.7
less 10%	7	25.9
Total	27	100.0

The final question of the survey requested that extension agents list the types of value-added processing currently being employed in their counties. Six agents (22%) reported no value-added processing being employed, while 21 (78%) reported at least one enterprise. The most common form of value-adding involved some type of beef cattle or beef products marketing, with 13 agents reporting this type of enterprise. Farmers' markets or fresh produce was the second most common, close to production of jams and jellies in third. Value-adding involving sheep, wine making, and honey each had two agents who responded affirmatively, while greenhouses, dairy, tobacco, and grain enterprises were named by one agent each. (see Table 3). A complete list of value-added producers as listed by county agents can be found in Appendix G. Data were gathered from 27 agriculture extension agents reporting a mean of 405.67 farms per county, a maximum of 1000 and a minimum of 55, for a total of 10,953 farms.

Table 3

Types of Value-added Processing

	No		Yes	
	N	%	N	%
Identified Types of Value-Added	6	22.2	21	77.8
Beef Marketing	14	51.9	13	48.1
Farmers Market	20	74.1	7	25.9
Jams, Salsas, Etc.	21	77.8	6	22.2
Sheep	25	92.6	2	7.4
Wine	25	92.6	2	7.4
Honey	25	92.6	2	7.4
Greenhouse	26	96.3	1	3.7
Dairy	26	96.3	1	3.7
Tobacco	26	96.3	1	3.7
Grains	26	96.3	1	3.7

Of this number, a total of 209 (1.9%) were value-added producers with an average of 8.71 value-added farms per county (see Table 4).

Table 4

Number of Farmers

	<i>X</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Sum</i>
Number of Farmers	405.67	237.47	55	1000	10953
Farmers Using Value-Added Processing	8.71	9.87	0	40	209

Interviews with Producers

Using the list provided by the agents, value-added producers were contacted by telephone and asked a series of questions pertaining to their enterprises (see Appendix D). The farmers reported a variety of enterprises including wool production, produce markets, farm tours, pasteurized milk and dairy products, calf pools, beef products, jams and jellies, aquaculture, grains for feeds, wine making, greenhouse plants, and honey products. When asked about the success of their enterprises, all the farmers reported some degree of success. Many reported the enterprise as the main or sole source of income. Two farmers reported ups and downs in profit, mostly due to the seasonality of the enterprises. One farmer responded that her enterprise was more of a hobby and not a substantial income source. Also one farmer reported limited success due to marketing problems.

Most of those contacted had been in the value-added business for less than 10 years, with one farmer who was currently building a value-added dairy enterprise. Three farmers have been adding value to products for between 10 and 15 years, two reported having a successful business for more than 20 years, and one farmer who has been direct marketing potatoes for 51 years. Farm size ranged from 10 to 300 acres being devoted to value-adding. All of those surveyed

responded yes when asked if they would be willing to participate in case studies, and were very willing to discuss their enterprises (see Appendix G).

Case Studies

Due to time constraints, only four farms were chosen for case studies. These farms were chosen based on a variety of factors such as type of enterprise, originality, success of venture, and adaptability to other areas and farming situations in West Virginia. Farms were also chosen in an effort to include many different sectors of agriculture and methods of processing. All farms were visited during the week of March 22, 2002.

The first case study was Thistledeew Farm located in Wetzel County. Thistledeew Farm is a honeybee enterprise owned and operated by Steve and Eleanor Conlon. The Conlons began their enterprise in 1974 and have built their business to include approximately 700 honeybee hives from which 60,000 pound of honey are produced each year. From the honey and wax they produce a variety of products like honey mustards, creamed honey, hot pepper butter, sauces, flavored honeys, candles, and ornaments. They also provide educational demonstrations, bee beards, and distribute honeybee literature. This business has been extremely profitable and serves as their sole source of income.

Case study # 2 was Hopping Acres, owned by Kelly Smith, located in Preston County. Kelly breeds and raises Romney and Leicester Longwool sheep. From the wool of her sheep she spins yarn which she knits into sweaters, hats, mittens, scarves, slippers, socks, and ornaments. She also sells sheep skin rugs, teaches spinning classes, shows sheep, and sells yarn and bulk wool to other hand spinners. Most of her products are sold at the various shows she attends, however some are sold over the internet through her website, or direct from her home. She now has 40 sheep which she feeds year round on 10 acres at her home. Kelly reports that her business

more than pays for the upkeep of her sheep. She explains that, though she could successfully expand her business, she is content with a smaller scale hobby enterprise to supplement her family's income.

Headwater Farms Limited Liability Corporation was chosen for case study # 3. This is a corporation formed by eight beef farmers in Hampshire County with the guidance of Hampshire County extension agent Bob Cheves. Looking for a way to increase income, Bob began to explore different ways of marketing beef cattle. He got eight farmers in his county to commit to a new marketing strategy. They began direct marketing their cattle to buyers. They then provided follow-up phone calls and visits to check on the status of the sold cattle. After a time they discovered they could make a profit by selling 750 pound grass fed beef that was processed, vacuum packed, and frozen. These eight beef farmers have now formed a corporation which contracts processing of their cattle to a USDA certified processor in Pennsylvania. They market this beef directly to consumers under the name Petite Beef. This strategy has proven successful and has led to formation of a central community kitchen and storage facility for Petite Beef. Because each of the eight families has a share of the corporation they are committed to the successful marketing of their products.

Case study # 4 was Higson's Farm in Mineral County. For 15 years Ron Higson and his family have been in the value-added produce business. They have 125 acres of pick-your-own vegetables and fruits including strawberries, asparagus, raspberries, pumpkins, gourds, squash, cucumbers, peppers, sweet corn, green beans, lima beans, and tomatoes. They employ at least two people year round and as many as ten during the growing season. The Higson's also take their produce to many farmers' markets including one at their home. Through this enterprise the Higson's have been able to make a living as full-time farmers. They also offer hayride tours of

their farm to schools and children's groups and are currently building a pavilion to provide a gathering place for visitors to the farm.

Detailed accounts of each case study interview can be found in Appendices H-K. When interviewing the case study participants they were asked about the benefits and risks associated with entering a value-added enterprise. All of them cautioned that without detailed research into their products and markets success would be limited. They also said that the businesses took a great deal of time and dedication and became, in a sense, a way of life in order to ensure their success. They all expressed the fact that the benefits far outweighed the risks in that it was a wonderful way to raise a family and maintain an agricultural lifestyle. Kelly Smith and the Conlons both expressed gaining great satisfaction from product development and marketing new products they had created. Bob Cheves related the benefits of helping beef farmers in his area begin to see larger returns from investments and to build a loyal customer base. The Higsons are thankful that their value-added enterprise has enabled them to make a successful living as full-time farmers.

Summary

All data gathered for this study was collected during the months of February, March, and April of 2002. Initial surveys were sent to all West Virginia agriculture extension agents. These agents responded to questions based on their interest and involvement in value-added processing. Most agents reported a high level of interest in increasing value-added processing, or getting more information on the topic. Agents then gave names and contact information of farmers in their regions that employ a type of value-adding. These producers were interviewed by telephone and reported many different types of businesses.

Extension agents reported a high degree of interest in increasing value-added processing or in getting more information about the topic. The three most prevalent types of value-adding were beef or beef products, farmers' markets, and production of jams, jellies, salsas, etc. It was determined that 1.9% of farms in West Virginia (209) are value-added farms, with an average of 8.71 value-added farms per county. Upon interviewing producers listed by county agents, four were chosen for case studies that involved a one-day visit, interview with owners, and pictures of farms and/or products. The types of enterprises chosen for case studies included honeybees, wool products, processed beef, and fresh produce.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

This study utilized both a survey and case study approach in describing the methods of value-added processing being used by farmers in West Virginia. Specific objectives addressed through this research included identifying the number of farmers in West Virginia using value-added processing, identifying types of value-added processing being used, identifying the amount of interest in this subject area as expressed by farmers and agriculture extension agents, and describing the benefits and risks associated with a value-added enterprise as stated by the case study participants.

An initial census survey was sent to all West Virginia agriculture extension agents, along with a cover letter, definitions of terms, and address pages. A total of 28 agents were contacted with 27 responding (96.4%) representing 54 counties. The survey contained nine questions pertaining to value-added processing (see Appendix B). The agents were then asked to provide names and contact information for farmers employing value-added processing. A total of 43 farmers, corporations, and/or cooperatives were identified by the extension agents. All were contacted by telephone by the researcher as a part of phase II of the research. Four were selected for case studies which entailed a site visit and interview with the owners and operators of the enterprises. Case study participants were selected on a variety of factors including originality, type of enterprise, geographic location, success of enterprise, length of time in business, and adaptability for other farmers in West Virginia.

Conclusions

West Virginia agriculture extension agents representing 54 counties acknowledged 209 value-added producers in West Virginia. The majority of these producers were involved in a type of enterprise involving a method of marketing beef cattle or beef products. This was a logical finding because, according to census data, beef is the most common livestock enterprise in West Virginia. (USDA, 1997). Farmers' markets are the second most prevalent form of value-adding, closely followed by production of jams, jellies, and salsas. Together, these categories add up to 96.2%. There is some overlapping of categories due to farmers with multiple enterprises, however it can be concluded that 96% of farmers with a value-added enterprise in West Virginia are involved in beef marketing, farmers' markets, or jams and jellies. This leaves a smaller portion of value-added producers who are involved in sheep, wine, honey, greenhouses, dairy, tobacco, and grain enterprises.

Over 77% of agents surveyed reported at least one type of value-adding occurring in their counties, with an average of 8.71 value-added producers per county. It appears that the use of value-added processing as a means of increasing income for farmers is becoming more prevalent. Many beef farmers are involved in calf pools, where calves are wormed, vaccinated, castrated, and dehorned before being sold together. This is a common method of adding value to a raw commodity in West Virginia and many other states. Farmers can usually expect a higher price per pound on calves that have been sold through these pools. Produce farmers that transport fruits and vegetables to farmers' markets also report higher prices than those producers selling wholesale to dealers. Farmers' markets are a good way to acquaint consumers with agriculture and farming practices, and can enhance agritourism into rural regions.

When agents were asked how many farmers had expressed an interest in value-added processing, 96% of agents reported some degree of interest existing. Four agents reported that 10% or more (up to 25%) of farmers were interested. From this, it is evident that many farmers are looking for ways to increase farm income and believe the answer may be found in adding value to raw commodities. Though most agents reported less than 10% of their farmers were interested, this number may rise with increased education about the benefits of value-adding.

The vast majority of agents surveyed (96.2%) moderately or strongly agreed with the statement, “I would help a farmer in a value-added enterprise.” Seventy four percent of agents agreed that they would like to know how to advise farmers to get started in value-adding. Sixty three percent agreed that they were currently involved in increasing value-added processing. In addition, 89% of agents disagreed that value-added processing has no place in their counties. This data conveys that the majority of agents are interested in increasing value-added processing. They realize some of the income advantages of adding value to commodities and believe their farmers might benefit from a value-added enterprise. Though they are interested, and are likely more informed than the average person, 81.4% of agents reported that they would like more information on value-added processing. This data could be provided through distributing literature, visiting value-added operations, and attending or hosting value-added seminars.

Every farmer surveyed, and those involved in case studies were able to report some degree of success with value-added processing. No one expressed a desire to exit an enterprise and all were either content with their current operations or planned to expand in the future. It is clear that there is money to be made in the value-added sector, provided that producers are well informed about markets, marketing strategies, and intended finished products. Value-added processing and direct marketing have been increasing in the last 20 years in many other states,

the majority of which are located in the north east region of the country. (Refer to Table 5).

Consumers are becoming increasingly health conscious, and are looking for ways to “put a face with their food”. Value-added processing is a logical way for farmers to make more money by meeting consumer demands.

Table 5

Value of agriculture products sold directly for human consumption per farm.

Source: National Agriculture Statistical Service 1999

Rank and State	1997	1972
1. Rhode Island	\$17,210	\$12,426
2. Massachusetts	16,170	13,872
3. Connecticut	14,186	9,531
4. New Hampshire	12,541	8,169
5. California	12,401	6,878
6. Delaware	12,102	13,237
7. New Jersey	10,998	7,400
8. New York	9,928	9,360
9. Pennsylvania	8,850	7,364
10. Hawaii	8,735	5,675

(Goetz p.1, 2002)

Implications

With the knowledge that farmers and extension agents alike are interested in increasing value-added processing, steps should be taken by university faculty, agriculture organizations, and agriculture educators to see that more information and assistance is available to those looking to enter a value-added enterprise. Farmers need agriculture agents to not only furnish

information, but to generate interest in value-added processing, and advise them on entering an enterprise. Likewise, extension agents need readily available, current, and practical information about value-added processing, opportunities, and available niche markets.

With the data generated through research like this, university faculty, special interest groups, agriculture educators, and extension personnel can move forward in addressing the financial concerns of West Virginia farmers. Because farmers have been losing their share of the food dollar, and have been seeing declining profit margins something must be done to keep them farming. Value-added processing and direct marketing may be the answer to this dilemma. If more farmers were involved in adding value to their commodities, not only would farm income increase, but consumer knowledge and appreciation for agriculture would increase as well. Likewise, agritourism in rural areas may also benefit. Here in West Virginia we are fortunate to be rural but located very close to many of the high dollar markets along the East Coast. These markets may provide the profits West Virginia farmers have been looking for, through methods of value-adding.

Recommendations

Further research is needed into the markets available to farmers in West Virginia. Also research should be conducted exploring the types of information currently available to agents dealing with value-added processing, and specifically what types of information would be most useful. Because of time constraints, only four farms were chosen for case studies during this research. There are likely many other enterprises, in West Virginia and other states, that could be adapted to many farming situations.

Another area of possible research is in the services that other agencies such as the Farm Bureau, USDA and WVDA could provide to farmers who are looking to enter a value-added

enterprise. Also more detailed information could be gathered dealing with what steps should be taken by those undertaking a value-added enterprise in West Virginia in order to ensure its success. It is strongly recommended that anyone considering entering a value-added enterprise thoroughly research the intended market and potential for profits for the products.

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APPENDICES

APPENDIX A

Initial Letter to County Agriculture Extension Agents

February 10, 2002

Dear

My name is Jennifer Lewis and I am currently pursuing a Master of Science degree in Agriculture Education at West Virginia University. In partial fulfillment of my degree requirements, I am conducting research dealing with how farmers in West Virginia are using value-added processing to increase their annual income. I would like to request your voluntary assistance in collecting data for this project.

Enclosed is a survey containing questions about value-added processing, as well as a request for names and contact information of farmers in your area who are employing methods of value-added processing. Also enclosed are working definitions of terms used in this research. **Please take a moment to answer these questions and return the survey to me by February 20, 2002 using the stamped, self-addressed envelope that is enclosed.** Please note that you do not have to answer every question, and your answers will be kept as confidential as legally possible. You will notice a code number at the top right of the survey. This code will be used to identify non-respondents and will be destroyed before the data are analyzed.

Once the data are gathered, I will select up to six farms to participate in the case study portion of the research. By gaining knowledge of how value-added processing can be used to increase income, interest in value-added processing may be generated. If more farmers in West Virginia become engaged in a type of value-added enterprise, they can perhaps begin to see a larger return on investment for their agricultural products. In addition, more dollars spent on agricultural goods and services by consumers can remain in the local communities in which the goods were produced.

West Virginia farmers should have the opportunity to be price makers, and should be able to make enough money to maintain an agricultural way of life. Research like this will help to take steps in this direction. Thank you in advance for your assistance with my research. If you have any questions regarding the research or survey you can reach me at (303) 457-2753 or via e-mail at jenlewis66@hotmail.com.

Sincerely,

Jennifer Lewis
Graduate Student

Harry Boone
Assistant Professor

APPENDIX B

Agriculture Extension Agents' Questionnaire

Definitions

Farmer- any person operating a farm from which \$1,000 or more of agricultural products are produced and sold during the census year.

Value-added agriculture- getting more income from your commodity and the natural resources on your farm in a sustainable manner.

Value-added products- products that have increased in value because of processing. Examples are consumer ready food products such as jams, jellies, cheeses, processed or cured meats, etc.

***Farmers' names given do not need to be full time farmers. They may process and market their own agricultural products, however enterprises such as farm tours, fee fishing, fee hunting, etc. may also be considered. The enterprise should be sustainable and should supplement farm income by a notable amount.

Value –Added Processing/Value-Added Agriculture in West Virginia

Please rate the following statements from 1 to 5 using the following scale: 1 – strongly disagree, 2 – moderately disagree, 3 –neutral, 4 – moderately agree, and 5 – strongly agree. Circle your response.

	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
A. I am currently involved in increasing value-added processing in my county.	1	2	3	4	5
B. I would like to know how to advise farmers in my county to get started in value- added processing.	1	2	3	4	5
C. I would help a farmer in a value-added enterprise if they expressed an interest.	1	2	3	4	5
D. I would like more information on value-added processing.	1	2	3	4	5
E. I believe value-added processing has no place in my county.	1	2	3	4	5

Please answer the following questions:

- _____ 1. How many farmers are there currently in your county?
- _____ 2. Approximately what percent of these farmers have expressed an interest in value-added processing or value-added agriculture?
- _____ 3. How many farmers in your county have a value-added enterprise?

4. What types of value-added processing do they employ?

On the enclosed form, please provide the names and contact information for all farmers in your county who currently employ a type of value-added processing or value-added agriculture. For those agents that work in two counties, please make separate sheets for each county.

Value Added Producers _____ County

Name:		Type(s) of Enterprises:	
Address:			
City:	State:		
Zip Code:	Phone:		
Email:			
Name:		Type(s) of Enterprises:	
Address:			
City:	State:		
Zip Code:	Phone:		
Email:			
Name:		Type(s) of Enterprises:	
Address:			
City:	State:		
Zip Code:	Phone:		
Email:			
Name:		Type(s) of Enterprises:	
Address:			
City:	State:		
Zip Code:	Phone:		
Email:			
Name:		Type(s) of Value Added Products:	
Address:			
City:	State:		
Zip Code:	Phone:		
Email:			

Make additional copies of this sheet if necessary.

APPENDIX C

Value-added Producers Telephone Interview Introduction

Telephone Interview

Introductory Remarks

My name is Jennifer Lewis and I am currently pursuing a Master of Science degree in Agriculture Education at West Virginia University. In partial fulfillment of my degree requirements, I am conducting research dealing with how farmers in West Virginia are using value-added processing to increase annual income. I would like to request your assistance in collecting data for this project.

_____, County Agricultural Agent, gave me your name as a producer who is employing value-added processing techniques to increase the value of your farm products. For this study, **value-added products** are those products that have increased in value because of processing techniques you have used. Examples of value-added products are consumer ready food products such as jams, jellies, cheeses, processed or cured meats, etc.

I have a few questions I would like to ask you about any value-added products you produce on your farm. This will only take a few minutes of your time and your participation in the study is voluntary. Please note that you do not have to answer every question, and your answers will be kept as confidential as legally possible.

Once I contact all of the producers recommended by West Virginia's County Agricultural Agents, I will select up to six farms to participate in an in-depth case study portion of the research. By gaining knowledge of how value-added processing can be used to increase income, interest in value-added processing may be generated. If more farmers in West Virginia become engaged in a type of value-added enterprise they can perhaps begin to see a larger return on investment for their agricultural products. In addition, more dollars spent on agricultural goods and services by consumers can remain in the local communities in which the goods were produced.

West Virginia farmers should have the opportunity to be price makers, and should be able to make enough money to maintain an agricultural way of life. Your participation in this research study will help West Virginia's farmers take steps in this direction.

APPENDIX D

Value-added Producers Telephone Interview Questions

APPENDIX E

Value-added Producers Case Study Interview Introduction

Case-Study Interview

Introductory Remarks

My name is Jennifer Lewis and I am currently pursuing a Master of Science degree in Agriculture Education at West Virginia University. In partial fulfillment of my degree requirements, I am conducting research dealing with how farmers in West Virginia are using value-added processing to increase annual income. I would like to request your assistance in collecting data for this project.

I spoke with you a few weeks ago about the value-added products you produce on your farm. At that time, you agreed to be a participant in a case study where information about your operation would be shared with other producers in the state. Keep in mind that, **value-added products** are those products that have increased in value because of processing techniques you have used. Examples of value-added products are consumer ready food products such as jams, jellies, cheeses, processed or cured meats, etc.

I have a few questions I would like to ask you about the value-added products you produce on your farm. This will only take a few minutes of your time and your participation in the study is voluntary. Please note that you do not have to answer every question, and your answers will be kept as confidential as legally possible.

With your permission, I would like to audiotape the interview. The audiotape will be transcribed and the transcript used to verify the accuracy of my interview notes. The tapes, transcripts, and interview notes will be stored in a locked cabinet in my advisor's office. Upon completion of the study, the audiotapes, transcripts, and interview notes will be destroyed.

By gaining knowledge of how value-added processing can be used to increase income, interest in value-added processing may be generated. If more farmers in West Virginia become engaged in a type of value-added enterprise, they can perhaps begin to see a larger return on investment for their agricultural products. In addition, more dollars spent on agricultural goods and services by consumers can remain in the local communities in which the goods were produced.

West Virginia farmers should have the opportunity to be price makers, and should be able to make enough money to maintain an agricultural way of life. Your participation in this research study will help West Virginia's farmers take steps in this direction.

APPENDIX F

Value-added Producers Case Study Interview Questions

Case-Study Interview Questions

Name _____

Date: _____

1. What value-added products (enterprises) do you produce in your farming operations?
2. How would you describe the relative success of your value-added venture?
3. Who do you market your products/or services to?
4. What methods of marketing do you employ in your value-added operation?
5. What services are offered to the public by your operation?
6. What motivated you to get started in a value-added operation?
7. If you were talking to a producer who is considering a value-added operations, how would you describe the benefits and risks involved in a value-added operation?

What were the initial steps you took to research and start your value-added operation?

APPENDIX G

Value-added Producers in West Virginia

Value-added Producers

Berkeley County

Jerrald Dehaven

direct market dairy, production of milk, yogurt, butter

Cabell County

Unlimited Futures with David Harrington

helps rural and disadvantaged businesses get started.

Hampshire County

Headwater Farms LLC

8 cattlemen market Petite Beef

Highland Harvest LLC

corporation of produce farmers send produce to Gourmet Central for processing and marketing.

Marion Pugh

farmers market, jams and jellies

Hardy County

Don Dasher

berries and small fruits

Sam Williams

pumpkins and corn

Andy Walker

honey

Jefferson County

County is looking into building a facility to process local meats.

Arney Dailey

raises beef and has butcher shop

Ron Slonicker at Jefferson Orchards

direct markets and has bakery

Danny Nolan and Jerry Mark at Jefferson Greenhouse

Poinsettias and herbs

Lee Griner at Ridgefield Farm

pumpkins, Christmas trees, apples, direct markets and delivers

Kanawha County

Fran Moore

sheep and llama

Kanawha County

Jim Gritt
greenhouse

Fred Hays
fish, mushrooms, ginseng, eggs

Steve May
bees, honey

Richard Settle
produce

Lewis County

Bill McClain, Dave Singleton, Kevin Mullody
calf pool participants

Dot Montgillion, Debbie Lambert
jams, jellies, etc.

Don Peterson
bull evaluation program, farm-production sale

John Spiker
on farm club lamb sale

Mason County

Danny Fogleston
beef, swine, tobacco, grains, tomatoes

Jack Crank
beef, grains, and hay

Mineral County

Richard Woodwortz
beef from conception to consumer, farmers market

Ron Higson
produce, farmers markets, pick your own, farm tours

Indian Water Maple Company
farm tours, pumpkins, apple butter

Patty White
pumpkins, face painting, attends festivals

Monongalia County

Mon Valley Farms LLC
value-added beef products

Monroe County

Marshall Ritter

sliced apples and caramel, pick your own gift boxes

Morgan County

Adam, Eli, and Brian Cook

fruits, vegetables, specialty dairy

Preston County

Susan Reall

buys wool and makes clothing

Kelly Smith

sheep, wool clothing

Ed and Bill Grose

contracts finished cattle to packing company, pick your own vegetables, brand potatoes

Roane County

Mr. and Mrs. Paul Taylor

winery

Tyler County

Huff Farm Inc.

processed beef products

Periwinkle Farm

jams, jellies, gourmet foods

Wetzel County

Steve and Eleanor Conlon at Thistledew Farm

honeybees, honey and was products

APPENDIX H

Case Study #1 -- Thistledeew Farm

Case Study #1 Thistledeew Farm

In 1974 Steve and Ellie Conlon moved to Wetzel County with two hives of honeybees. At that time they were interested in beekeeping, but realized that selling wholesale honey could not return enough money to support their family. They soon began looking for alternative form of marketing what they knew to be a high quality product.

Ellie Conlon explained during the case study interview on March 26, 2002 that once during a county fair, Steve noticed that someone was charging people \$1.00 to see an extremely large steer. Thinking that honeybees were just as interesting, or more so, as a steer the Conlons began exploring ways to gain public interest in honey and beekeeping. They began demonstrating bee beards and giving educational talks about honeybees to local schools and organizations, all the while expanding their hive numbers.

Along with educational demonstrations they also began to produce many value-added honey and was products. Throughout their expansion they gained valuable support for their enterprise from the West Virginia Department of Agriculture and the National Honey Board. These organizations aided the Conlons by sponsoring workshops, helping with label development, distributing nutritional information, honey analyzing, giving educational literature, and various other services.

Today the Conlons have approximately 700 honeybee hives spread over a four county area. They won 300 acres in Wetzel County and pay rent to farmers in Marshall, Tyler, and Ritchie counties to place hives on their land. As Ellie explained, most farmers are grateful to have the bees around for pollination purposes. Honey is gathered two to three times each year, and they try to keep 20 to 30 hives per location. The hive groups are spread about three miles apart because the bees have a range of one and a half miles. They are careful not to overpopulate an area to ensure the bees have a large, high quality food supply. At about 60,000 pounds of honey per year, they obviously manage the hives well.

The Conlons have developed a line of products that include: three honey mustards, two creamed honeys, hot pepper butter, two sauces, six flavored honeys, beeswax candles and ornaments, three skin creams, two lip creams, nuts & honey, and jarred plain honey. Over the years this venture has been very successful for Conlon family and serves as their main source of income. In their gift shop they also carry other hand made West Virginia crafts from other companies and individuals for a percentage of sales return.

The enterprise could be described as mostly retail, direct to consumers from the gift shop, mail order, and internet sales. However, they do wholesale products to other gift shops. Advertisement for Thistledeew Farm consists of bill boards, the West Virginia State Tourism magazine, their website, and publicity demonstrations, along with various brochures and literature about their operation. In addition to honey products, they offer public services such as pick up of swarms, pollination services, bee beards, educational talks, and facility tours.

The Conlons described many benefits of entering a value-added enterprise during the interview. The life they have worked to create is very satisfying, and they are proud of the products they have developed. They feel that they can control the success of their business and that it has provided a wonderful and wholesome way to raise their family. The only risk expressed by the Conlons was the fact that any venture of this type and scale is very consuming and is a way of life that demands a large amount of time and attention. With the help of family, support organizations, and the devoted staff (5-6 employees) of Thistledeew Farm they are sure to be productive for many years to come.

APPENDIX I

Case Study #2 – Hopping Acres

Case Study # 2

Hopping Acres

When she was nine years old Kelly Smith joined the 4-H club and took on a market lamb project for the county fair. It was then that she realized her love for sheep and the sheep industry. This love has stayed with her through the years and has given rise to a successful value-added business. With her first market lambs, Kelly began to think about making a sweater from the wool, so she took a spinning class. She eventually taught herself to knit the spun wool and discovered her obvious talent.

Kelly began to exhibit her early work at local shows and discovered a market for handspun wool products. As her customer base grew she began to research about purchasing a knitting machine. She knew she wanted a machine to knit handspun yarn. When Kelly attended the Fiber Arts Congress in Kentucky she found the typed of machine she was looking for and soon purchased one. In addition to researching knitting machines and taking spinning classes she also spent quite a bit of time looking into breeds of sheep at the Maryland Sheep and Wool Festival. Her research led her to the two breeds of sheep that now provide the wool for her enterprise: Romneys and Leicester Longwools. Romneys are hardy sheep that produce a soft wool that works well for spinning. They can be used as a dual purpose breed that produce wool and meat equally well. Leicester Longwools are a rare breed listed as critical on the Endangered Species List, with only about 2000 in the world. They add a uniqueness to Kelly's enterprise and produce a longer, coarser wool with a high market value. Kelly explained that this type of wool works well in the doll making industry to make hair for the dolls. She hopes to aid in the effort to reestablish this rare breed.

She now has 40 sheep which she keeps on 10 acres at her home near Bruceton Mills, West Virginia. She feeds the sheep a year round ration of barley and corn grain and alfalfa hay, however she cautions that feeding too much corn in the hot weather months gives the wool a yellow cast. Kelly explains that, through her enterprise, her sheep more than pay for their upkeep. Though she could expand the business successfully if she wanted, she is happier having a small scale enterprise and has no plans for expansion.

Since 1984 Kelly has been producing quality sweaters, felted hats, mittens, scarves, socks, slippers, and ornaments. She also sells spun yarn and bulk wool to other hand spinners starting at \$5 per pound, and markets sheep skins for rugs or wall hangings. Her end products are marketed at shows such as the Oglebay Festival and the Arts and River Festival. She also sells some of her clothing over the Internet through her website and has some customers that come to her farm. Over the years she has gained many loyal customers and attributes this to putting out a quality product. She also believes many of her customers appreciate the fact that all the products are made from the wool of her won sheep. At most of the shows that Kelly attends she does educational spinning demonstrations and has taught spinning classes in the past for about \$50, supplies included.

Along with attending five to seven craft shows and festivals each year she also shows her sheep at county fairs and the West Virginia State Fair. Her sheep are bred both naturally and

artificially at her home, where possibly the first colored Leicester Longwools in the United States were born. Advertisement for her enterprise is achieved mostly through newspaper articles, her website, and being seen at various shows and festivals. Kelly explains that in order to be successful one must start with quality wool and know how the end product should look. It is also necessary to have substantial knowledge of wool types to choose the breed most suited to the intended purpose. Though a value-added venture of this type requires time and dedication, it can be a great pastime and an enjoyable way to earn extra money. Kelly advises those considering a wool enterprise to start small and know the product. Set a goal and work to achieve it. Kelly Smith at Hopping Acres Farm has certainly achieved her goal: a successful and satisfying venture that she clearly loves.

APPENDIX H

Case Study #3 -- Headwater Farms, LLC

Case Study # 3

Headwater Farms, LLC.

Headwater Farms, Limited Liability Corporation is a company comprised of eight farm families raising beef cattle. Part of the cattle they raise are processed and marketed as Petite Beef, based in Hampshire County. This corporation's story began years ago with an idea that Hampshire County extension agent Bob Cheves had to try to increase the income of beef cattle producers in his area. Bob was a farmer who had failed financially and felt he wasn't getting the help he needed to improve his situation. He made a few early assumptions: the Extension Service wasn't effectively reaching the farmers, and that aside from the Farm Bureau there was no active farming community, and no common meeting place for farmers in the community. He decided he needed to bring the farmers together so he began to organize a series of dinner meetings in which farmers and their families listened to speakers who focused on ways to increase income through cattle marketing, and cattle management. Grassland management was also a major topic because most of the money spent on cattle is for winter feed.

Bob chose speakers that were motivating and were able to present ideas to the farmers in such a way that made them want to get involved. From these dinner meetings early adaptors were brought together. They decided to first use a cattle pool strategy to try to increase income. Fifteen farmers expressed an interest in this new marketing strategy, and eight committed themselves to the project. They began by setting up criteria for cattle management and agreed on angus or angus crosses. They set up common worming and vaccinating regimens and conferred on management practices.

Once this was complete, they decided they needed to address customers and price control. They initially went to a teleauction and for the first time refused to sell their cattle at the going price. Believing their cattle were worth more, they took a risk and chose not to sell. Already one challenge had been met: getting a group of farmers together to change their marketing strategy. When they marketed their cattle they focused on pleasing the customers. They allowed people to pick and choose the most superior animals. Once the cattle were sold the farmers sent thank you cards to the buyers and back up bidders, and made several phone calls to check on the status of the cattle. One year after the cattle were sold, the farmers visited the buyers and made notes of any unsatisfactory cattle.

During this time Bob Cheves was approached by the Cacapon Institute to work with the farmers on a water quality program. Bob was offered \$5,000 to work with Cacapon but declined the money, suggesting instead that they use the money to look into the new strategy of this group of eight farmers. The group realized that they could use grassland management practices to grow a 750 pound calf with little supplement. They decided to try to market these cattle and began to look for a niche market. Upon doing some research it was discovered that 30% of the beef eating experience in restaurants is negative, chiefly due to toughness of meat. The beef they were raising was tender at 750 pounds, but was also lean. They began processing a product that was tender and lean with no steroids, hormones, preservatives, or added water. The Cacapon Institute committed themselves to supporting this project with a riparian water quality program to accompany it. The group initially slaughtered two steers and served the meat at a dinner for

the farmers and their families. They agreed they had a marketable product and decided on the name "Petite Beef." They then applied for a grant and received \$112,000 for a facility and to begin to market their product. The products were first marketed to supporters of Cacapon because these people fit the demographic that was concerned with health, water quality, and wanted to know where their food came from. Bob worked with the USDA to set up inspection and processing protocols. They got a trademark patent, developed a logo, worked with a lawyer to form a limited liability corporation, and began processing. Each family put up \$1,000 to join the LLC. This amount was decided upon because it was fairly affordable but committed the farmers to the venture.

This enterprise has been extremely successful, and has served to help traditionally introverted farmers become actively involved in marketing their own products. They contract processing and fabrication to a Pennsylvania processor and guarantee a ground beef with less than 20% fat. They market two 15 pound combination packs- one gourmet and one family, one half, one quarter, or a whole beef. On average the corporation pays the individual farmer \$750 for a beef that can be processed and sold for \$1,200. This leaves \$450 profit to a joint account. This money is used to market and advertise. The frozen meat is stored at Gourmet Central, a community kitchen and gourmet foods facility owned and operated by Harvey Christie. Once the meat is purchased, in person, via telephone, or Internet, the products are delivered directly to the consumer. Though there are risks involved such as choosing to change the traditional marketing strategy for beef cattle, the members of Headwater Farms have come together to create a successful enterprise that could be very feasible to other farmers in West Virginia.

APPENDIX K

Case Study #4 – Higson's Farm

Case Study # 4

Higson's Farm

Ron Higson and his family have been fruit and vegetable producers for many years and have been able to make a living in the value-added produce field. When Ron met his wife she was living on a dairy farm in Mineral County with her family. After they were married and his father-in-law passed away, they had to decide whether to keep dairying or concentrate on fruits and vegetables. Because Ron had been raised on a produce farm, he saw the opportunity to make a larger profit raising fruits and vegetables, so the decision was made to sell the cattle. That was 15 years ago and the Higsons have built a sustainable value-added enterprise.

Realizing that selling produce wholesale was not the answer for them, they began a produce market from their home, open from Sunday through Friday during the growing season. Here they sell about 50% of their fruits and vegetables. Some produce is also sold to people who come to pick their own from the fields. The rest of the produce is taken to three other farmers' markets in Maryland, and West Virginia. This has proven very profitable because as Ron explains, there is a higher value market for fresh produce. Mineral County is also an ideal location for a value-added enterprise because of its close proximity to the Washington, D.C. area.

The Higson's have 125 acres of fruits and vegetables including asparagus, strawberries, raspberries, pumpkins, gourds, squash, cucumbers, peppers, sweet corn, green beans, melons, lima beans, and tomatoes. They keep two year round employees and have as many as ten during the Summer months. The Higsons reported that this past year was the best they'd ever had. Along with the produce, they also offer hayrides to children's groups and local schools, especially during early Fall. They are currently building a pavilion on the farm for the children to have a place to gather and eat lunch.

Most advertising for the farm is through word of mouth, though they do advertise in the Cumberland newspaper through the growing season, and in local papers. In the past they've also done some television ads. This venture has been very successful and has enabled the Higson's to be full-time farmers. They attribute this success to God and to their loyal customers, and strive to treat their customers the way they would like to be treated by letting them know how much they are appreciated. When asked about the risks involved, Ron advises people considering a produce value-added enterprise to know their area and market availability. He suggests having plenty of help during busy times and to start on a small scale. The Higsons have proven that here is a good living in value-added fruits and vegetables and will undoubtedly continue their success.

VITA

EDUCATION:

West Virginia University, Morgantown WV. Obtained B.S. in Agriculture Science, specialize in animal science. May, 2001 M.S. in Agriculture Education, specialize in leadership and communications. May, 2002

Alderson Broadus College, Philippi WV. AP Calculus

Fairmont State College, Fairmont WV. AP Biology.

Specialized coarse work in leadership, communications, and cattle nutrition.

PROFESSIONAL EXPERIENCE:

Intern at William R. Sharpe, Jr. Hospital. Worked in Health Information Management, and Administrative Services.

Intern at WVU Jackson's Mill, Worked under Senior Program Coordinator in nature trail restoration, landscaping, day camp coordinating.

Graduate Research Assistant for Division of Natural Resources, West Virginia University DCAFCS under Dr. Peter Schaeffer. Market research for Highland Harvest and Petite Beef Projects.

Home Farm, Manager of home farm where we raised beef cattle, hogs, horses and chickens. Also extensive work in dairy production.