

**VALUE ADDED:  
OPPORTUNITIES  
AND STRATEGIES**

**By**

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## INTRODUCTION

Value added is a term frequently mentioned when discussing the future profitability of agriculture. Its popularity rose substantially during the 1990s to the point that it has become one of today's buzzwords. What does it really mean, why has it become so important, and how can agricultural producers and agribusinesses participate in value-added business ventures?

In general, adding value is the process of changing or transforming a product from its original state to a more valuable state. Many raw commodities have intrinsic value in their original state. For example, field corn grown, harvested, and stored on a farm and then fed to livestock on that farm has value. In fact, value usually is added by feeding it to an animal, which transforms the corn into animal protein or meat. The value of a changed product is added value, such as processing wheat into flour. It is important to identify the value-added activities that will support the necessary investment in research, processing, and marketing. The application of biotechnology, the engineering of food from raw products to the consumers, (Barkema and Drabenstott), and the restructuring of the distribution system to and from the producer all provide opportunities for adding value.

The produce-and-then-sell mentality of the commodity business is being replaced by the strategy of first determining what attributes consumers want in their food products and then creating or manufacturing products with those attributes. With the continuous shifting to a global economy, the international market for value-added products is growing (Boehlje). Market forces have led to greater opportunities for product differentiation and added value to raw commodities because of (1) increased consumer demands regarding health, nutrition, and convenience; (2) efforts by food processors to improve their productivity; and (3) technological advances that enable producers to produce what consumers and processors desire (Royer).

Producers involved with adding value will become more than commodity producers absorbing all the shocks brought about by global markets in this transitional period of agriculture. They will think of themselves as producing products for end users, instead of producing only raw commodities. For example, beef producers produce table-ready meat instead of finished (slaughter-ready) animals.

No longer content to sell raw commodities, some producers are striving for a larger share of the food dollar. These projects range from adding value to hogs, cattle, bison, fish, and eggs to marketing crops like organically grown grains, potatoes, carrots, beans, tomatoes, and corn for sweeteners and fuels, to producing specialty cheeses and

even alfalfa-based biomass for a local power plant. Producers have a challenge to be responsive to consumer demands by producing what is desired. Attentiveness to consumer demands in quality, variety, and packaging are important, because demographic trends show growth in the convenience-oriented, health-conscious, and environmentally concerned sectors where price is not as important as quality (Connor et al.). Because value-added research is important, producers might examine competitive advantages obtainable with processed products compared to raw commodities.

This publication describes what value-added means, why adding value is important, and how producers might become involved in adding value to their products. In addition, various case studies are presented to emphasize certain points. The following case study illustrates how the case studies are presented and demonstrates a way to add value to corn.

### **VALADCO**

#### ***Renville, Minnesota***

*This producer-owned cooperative operates four swine seedstock farms and was incorporated in 1991. The primary purpose for the shareholders is to add value to their corn, but a secondary purpose is to increase the availability of genetically superior breeding stock for resale to swine producers. The 38 original members who bought 64 shares for \$5,000 per share and the right to provide 5,000 bushels of corn annually have increased to 128 members who own the 10,000 sows of the cooperative.*

The need for diversification and increased income through value-added agriculture has convinced many producers to become more resourceful as they add value to their products. The following case study demonstrates how wheat producers have become resourceful by owning a processing facility.

### **DAKOTA GROWERS PASTA COMPANY**

#### ***Carrington, North Dakota***

*In January 1992, a group of producers decided to establish a grower-owned, closed, processing cooperative of durum wheat growers. Members were required to purchase a minimum of 1,500 shares at \$3.85 per share, so that they could obtain delivery rights to the future plant. A total of 1,040 durum producers invested \$12 million in the project, which was 30 percent of the \$40 million needed to build the pasta plant. Production began in November 1993 with a capacity of 120 million pounds. In 1998, shares originally purchased for \$3.85 were worth \$15.*

## CHAPTER 1: WHAT IS VALUE ADDED?

A broad definition of value added is to economically add value to a product by changing its current place, time, and form characteristics to characteristics more preferred in the marketplace. As a specific example, a more narrow definition would be to economically add value to an agricultural product (such as wheat) by processing it into a product (such as flour) desired by customers (such as bread bakers). Producers involved in adding value should think of themselves as members of a food company that processes and markets products to consumers. Often, this may involve building processing plants in the producers' geographical regions to process locally produced crops or animals. However, another model has occurred, which involves building the processing plant wherever it is most feasible and profitable, such as closer to where the final products will be marketed. An example of adding value to wheat through a distant processing plant is illustrated by the following case study.

### **SPRING WHEAT BAKERS** **Fargo, North Dakota**

*This cooperative was formed in 1996 with 3,200 members from the Dakotas, Minnesota, and Montana. Marketing rights were sold to producers for \$6 a bushel with a minimum of 800 bushels. Each member also contributed \$200 to finance the preparation of feasibility studies and business plans for future business ventures. Thus, the minimum membership investment was \$5,000. United Spring Wheat decided to enter the frozen or partial bake dough business, a business that shows substantial trends in increased consumption. If this venture is successful, the value of the members' raw wheat could increase. A vacant food plant near Atlanta, Georgia was purchased to house the cooperative's first frozen dough and frozen partial baked bread plant, which began operation in July 1999. It is strategically located for product distribution throughout the Southeast.*

### **1.1 APPROACHES TO ADDING VALUE**

Adding value to products can be accomplished in a number of different ways, but generally falls into one of two main types: innovation or coordination. In general, the problem is to evaluate what, where, how, and who can efficiently perform the marketing functions (Tilley).

#### **1.11 Innovation**

Innovation focuses on improving existing processes, procedures, products, and services or creating new ones. Often, successful value-added ideas focus on very narrow, highly technical, geographically large markets where competition is sparse. Innovative value-added activities developed on farms or at agricultural experiment stations are sources of national growth through changes either in the kind of product or in the technology of production (Kraybill

and Johnson). By encouraging innovative ideas, adding value becomes a reality.

Innovation also can come from research about alternative crops that can be grown successfully by producers to replace traditional crops. Value-added is if producers are able to economically profit by growing these alternative crops instead of traditional crops. Some alternative crops that show promise include industrial hemp for its fiber, kenaf for fiber, and castor bean for its oil. The following case study describes an innovative nonfood use for a commodity common in Texas, but one that could be considered an alternative crop.

### **INDIAN CREEK MESQUITE** **Brownwood, Texas**

*Chunks of mesquite, a native scrub tree, are coated with paraffin to produce a product to replace charcoal for barbecuing. The mesquite is packaged in burnable bags and does not require lighter fluids to ignite. Hydrocarbons released by lighter fluids are among the major causes of pollution in California; hence, this product is exempt from the standards set for elimination of cooking fuels pollution. This renewable fuel source is grown on 55 million acres, yet only 10,000 acres currently are being utilized.*

#### **1.12 Industrial Innovation**

A specific type of innovation is industrial innovation, which is processing traditional crops into nonfood end uses. These value-adding innovative activities use the research and emphasis that has been placed on finding industrial, nonfood uses for common agricultural products. Several innovative processes have been developed to transform traditional crops into nonfood products. Examples of these ventures include producing ethanol from corn, biodiesel from soybeans, and particleboard from straw.

The next case study demonstrates innovative industrial uses for common field crops.

### **PHENIX MANUFACTURING** **St. Peter, Minnesota**

*An organic building material that looks like granite, but works like wood—Environ™—is made from soybean meal and postconsumer newspaper. It can be used to make counters, flooring, and furniture. Phenix Manufacturing is a 1,000 member farmer-owned cooperative that invested \$10 million in initial equity and committed 35,000 acres of soybeans. Another organic material, Clean Green, has been developed from corn and wheat starches to replace petroleum-based plastics. This material biodegrades in a matter of months and is a renewable resource.*

#### **1.13 Coordination**

Coordination focuses on arrangements among those that produce and market farm products. Horizontal coordination

involves pooling or consolidation among individuals or companies from the same level of the food chain. An example would be hog producers combining their market hogs to make a truckload. Vertical coordination includes contracting, strategic alliances, licensing agreements, and single ownership of multiple market stages in different levels of the food chain (Peterson and Wysocki). Vertical coordination, either through ownership integration or contractual arrangements, is necessary to link production processes and product characteristics to the preferences of consumers and processors (Royer).

Fundamental changes through coordination are altering traditional marketing relationships that link consumers, food retailers and wholesalers, food processors, and producers (Barkema and Drabenstott). However, individual producers usually do not have sufficient levels of production to effectively produce, process, and market their products (Akridge et al.). Few individuals possess all of the very different skills necessary for processing, marketing, and business management, as well as staying efficient with their production enterprises. Therefore, a coordinated effort is needed to increase market efficiency or cost reduction. Many observers believe that both upstream and downstream linkages of processors will continue to increase in the 21<sup>st</sup> century (Durham et al.). A specific type of coordination, vertical integration, will be explained after a coordinated effort is described in the next case study.

***NORTHERN LIGHTS VEGETABLE COOPERATIVE  
Brooten, Minnesota***

*A \$10 million pea and sweet corn processing plant, jointly owned by 65 growers and Patterson Foods of San Francisco, opened in 1996. These former growers of irrigated corn and soybeans began looking for alternatives in 1991 and now have contracted 9,000 irrigated acres to supply peas and sweet corn for this limited-liability company.*

***1.14 Vertical Integration***

Complete vertical integration is to align and control all of the segments of a production and marketing system under single ownership (King). The factors aligned and controlled are price, quantity, quality, and transactional terms of exchange (Sporleder). Producers who invest in value-added projects past the farm gate cause the market to become more vertically integrated. A totally integrated system can provide consistent quality from the field to the shelf, eliminating middlemen and even saving money for consumers. Integration downstream towards consumers by producers commonly involves an equity investment for processing, sometimes by means of a producer cooperative. Consequently, cooperatives are positioned uniquely for further integration in food processing. The success of these value-added ventures hinges on thorough planning and implementation. The following case study demonstrates adding value through vertical integration.

***GOLDEN OVAL EGGS  
Renville, Minnesota***

*This cooperative was formed in 1994 by corn producers to vertically integrate the marketing channel from corn production to egg processing and marketing. Value is added to corn by converting the members' corn to eggs. The 383 producer members invested over \$8 million of the \$22 million needed to finance the project. Producers bought at least two shares of stock for \$3,500 per share. For each share purchased, members commit 1,000 bushels of corn to be delivered to the cooperative. Each year, two million hens provide eggs that are processed into 60 million pounds of egg products for further processing by retail and food service industries.*

**1.2 THE IMPORTANCE OF MINIMIZING COSTS**

Nevertheless, before producers examine value-added processing and marketing, cost minimization in production much be achieved. Only low cost and efficient producers will be able to survive and compete in production agriculture. Adding value cannot take the place of reaching the efficiencies of production attainable through technology and economies of scale.

## CHAPTER 2: WHY VALUE ADDED IS IMPORTANT

The trend toward fewer, larger, and increasingly corporate farms has created a concern that many midsize family-owned farms will disappear. Already less than 2 percent of all farms account for nearly 40 percent of the value of U.S. output (Riemund and Harrington). Many rural areas that are faced with a declining number of farm jobs consider the food processing sector as a source of potential income and employment growth (Brown and Petrusis). By adding value to farm products, this food processing sector is seen by some analysts as a key element for rural growth, as well as a way to enhance farm income and provide rural jobs (Barkama and Drabenstott).

Leaders in local communities also are looking for solutions to their local economic problems. If rural areas cannot find ways to attract or create jobs requiring the skills of highly educated people, they may lose the group most likely to be the catalyst for improving local conditions (Ghelfi). However, any gains by rural areas probably will have to come about through intense competition with older, more-established industries in many metropolitan areas (Brown and Petrusis).

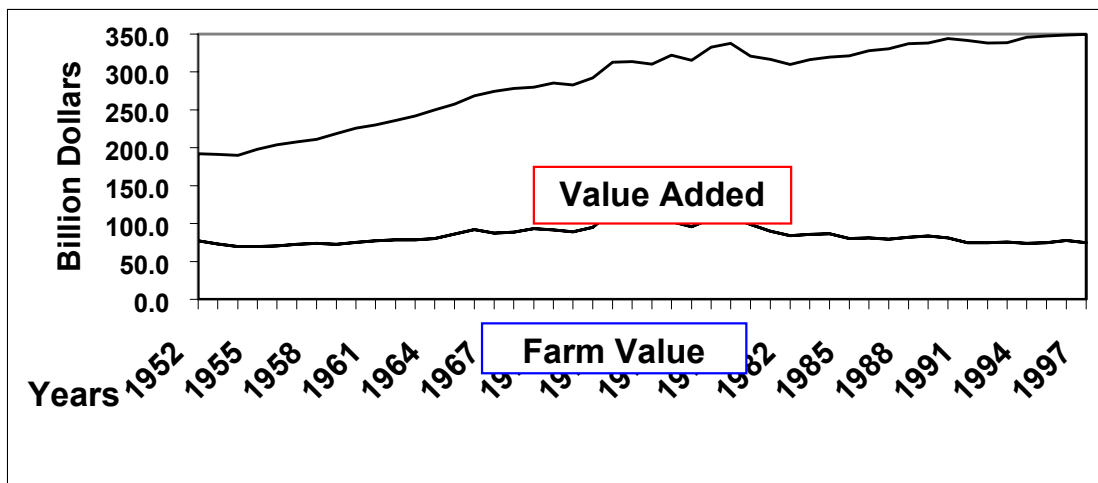
The following sections describe why adding value is important. They compare farm value to value derived from processing and marketing and the return on equity of both. They also describe the present, transitional, and turbulent period of agriculture, and they present the problem of a declining rural economy.

### 2.1 FARM VALUE VERSUS MARKETING BILL

The spread between the farm value of products and the retail value, often called the marketing bill, has increased steadily for the past 40 years (Figure 1). The farm value in real dollars (adjusted by the Consumer Price Index with 1982-1984 being the base years) has remained nearly constant, but the costs of processing and marketing have continued to increase.

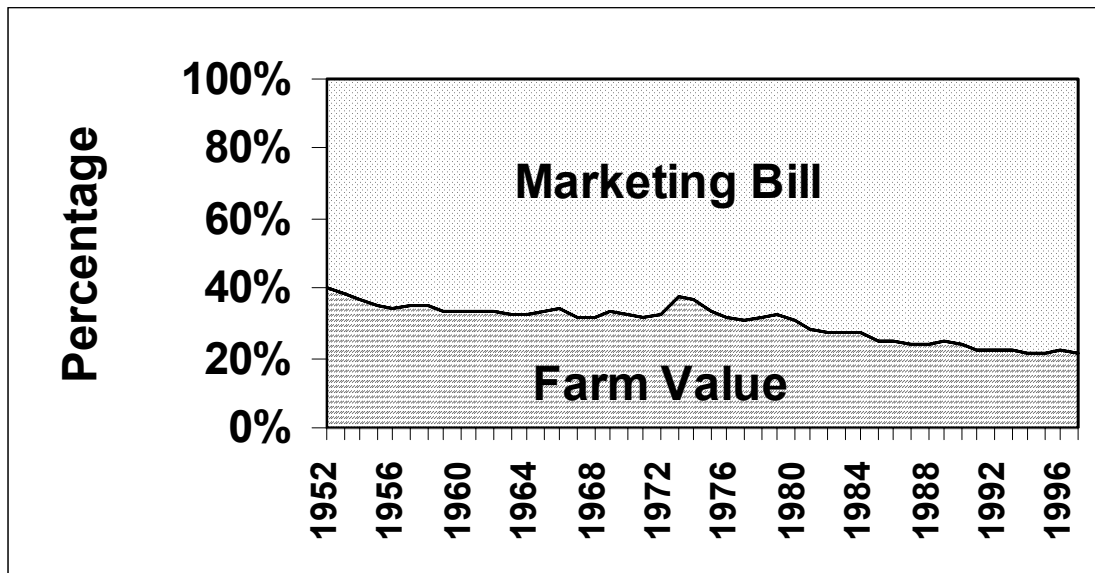
Figure 2 compares the marketing bill and the farm value as a percentage of total food expenditures. In 1997, consumers spent \$561 billion (actual dollars) on food expenditures, with the farm value contributing 21 percent and the other 79 percent coming from value-adding processes. That contrasts with 1952, when the farm value was 40 percent of the total food expenditures.

Figure 1: Total Food Expenditures Divided into Farm Value and Value Added (1983 Real Dollars)



Source: USDA Economic Resource Service

Figure 2: Total Retail Food Expenditures Percentages Comparing the Marketing Bill and Farm Value



Source: USDA Economic Resource Service

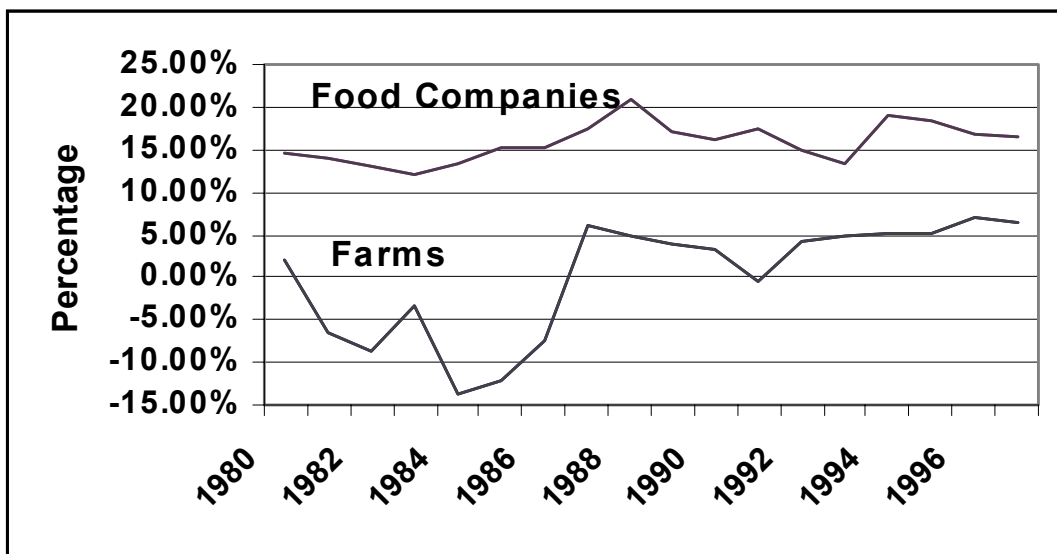
## 2.2 RATES OF RETURN ON EQUITY

Figure 3 compares the return on equity for production agriculture farms and food companies including processing, distribution, marketing, and retailing since 1980. The return on equity for the food companies has

averaged almost 16 percent, but the farm return on equity has averaged about 0 percent since 1980.

These factors are encouraging producers to become more interested in capturing some of the revenues, margins, and related profits that are available between the farm gate and consumers with value-added investments.

Figure 3: Return on Equity for Food Companies and Farms



Sources: Value Line Publishing and USDA Economic Resource Service

In 1995, approximately \$800 billion of assets invested by agriculture producers generated about \$65 billion for a 5 percent return on equity. On the next level of the food chain, which includes processing, approximately \$100 billion invested generated \$125 billion for a 15 percent return on equity (Senechal).

Be aware that risk in starting a value-adding business is high. Startup costs can make it difficult to realize a profit during the early years. Each producer must decide how much risk is incurred if the opportunity is pursued compared to the risk if the opportunity is not pursued and make a choice based on expected risk and return outcomes and risk preferences.



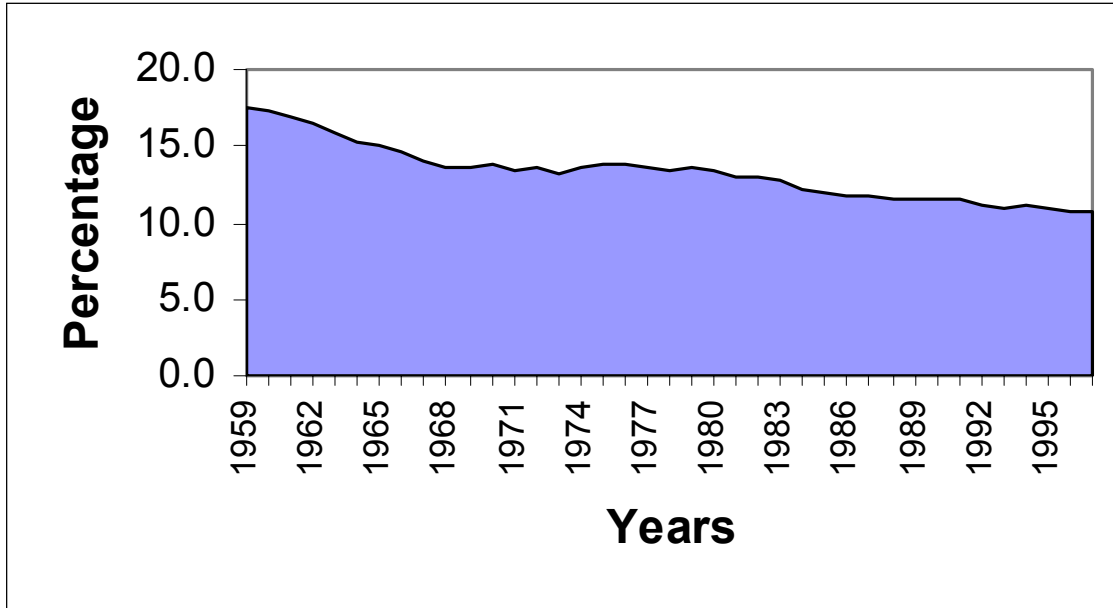
### 2.3 TOTAL FOOD EXPENDITURES

Figure 4 shows that the percentage of disposable income that consumers in the US spend on food has decreased steadily. The amount spent by consumers decreased from 17.6 percent in 1959 to 10.7 percent in 1997.

Figure 5 shows how the real dollars spent for food

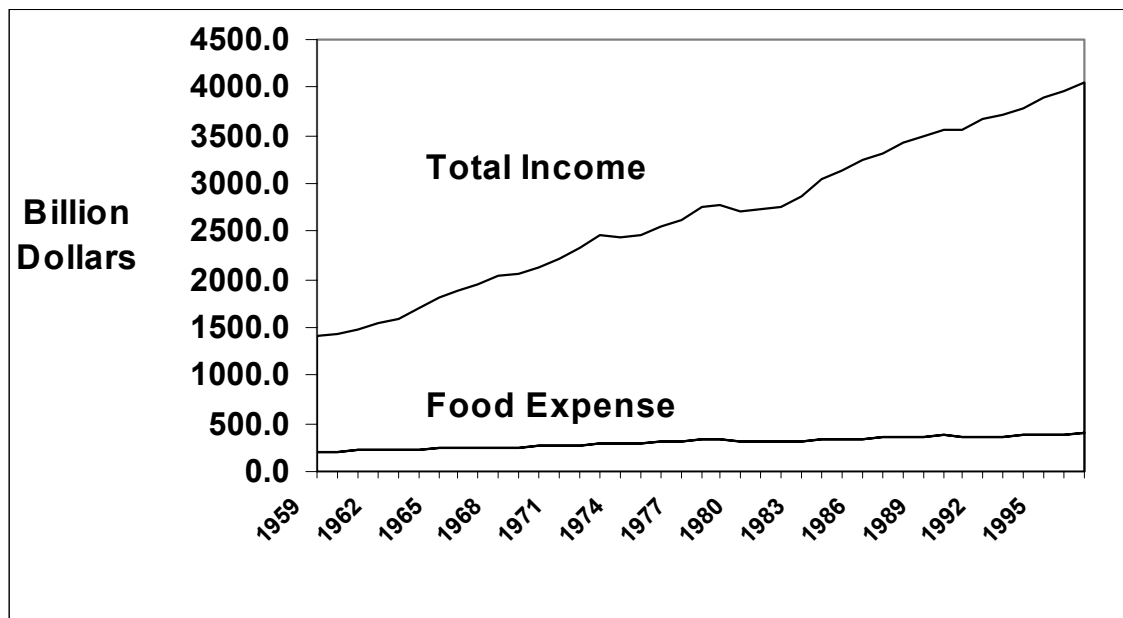
compare to the total disposable income. Food expenses in real dollars have remained relatively steady over the past 40 years. However, disposable income has increased almost 300 percent over that period. This suggests that consumers may be less sensitive to the price of food than in the past and more willing to pay for high quality and high convenience.

Figure 4: Percentage of Disposable Income Spent on Food in the US



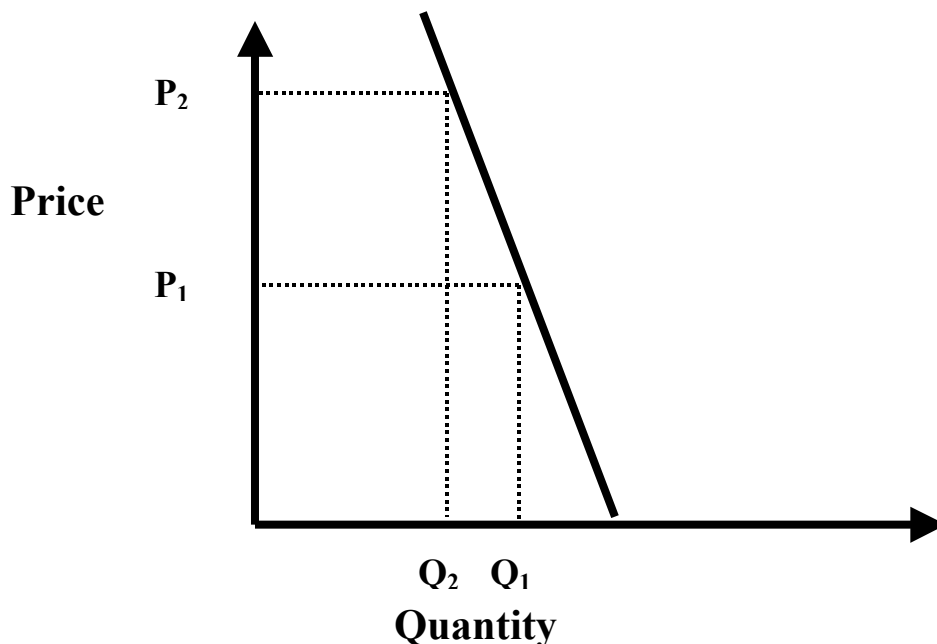
Source: USDA Economic Resource Service

Figure 5: Total Disposable Income Compared to Food Expenses in 1983 Real Dollars



Source: USDA Economic Resource Service

Figure 6: Inelastic Demand Curve



Food purchases generally are considered to have an inelastic demand, which is illustrated in Figure 6. Inelastic demand curves indicate that changes in prices do not have a large percentage effect on the quantity demanded. This theory implies that specialty food products designed for distinct consumer target markets can be priced higher, and the quantity demanded still will be nearly the same. Two specific examples of this are Certified Angus Beef, which sells for a premium, and organic foods. From 1986 to 1996, the market for organic food has grown 40-fold (Glickman).

In summary, value-added activities targeted to particular consumer desires have the potential to become more numerous in the future. These opportunities could help those involved in value-adding activities to capture higher economic profits.

#### 2.4 TRANSITIONAL PERIOD IN AGRICULTURE

Several circumstances are contributing to an increasingly turbulent time in agriculture. They include a reduction in federal price support, changes in consumer desires, increased use of biotechnology and information technology, and increased world trade. Egerstrom states "...the individual farm is being transformed into a small manufacturing firm that makes component parts for an extremely sophisticated and integrated global food system."

##### 2.41 Federal Price Support Scaled Back

Federal price support programs are being scaled back, and there is less reliance on federal coffers for bolstering farm income. Adding value to farm commodities may become an even more important income-enhancing strategy for producers. Commodity prices will be similar in the future to what they have been in the past, but

periods of excess supply and low prices will occur. New risk-management tools will need to be developed (Dobbins et al.).

Many producers will look for ways to be economically viable through voluntary, incentive-based solutions. Producers' greatest opportunities may lie in activities that add value to their products and move their point of first sale downstream toward consumers. Adding value to bulk raw commodities is one way for producers to keep a larger share of the margins associated with further processing and market development. Progressive producers respond to market developments, determine what factors will drive the future of their industry, and use these results to their advantage by adapting to change. The next case study indicates how observing market factors add value.

#### **21<sup>ST</sup> CENTURY GRAIN PROCESSING COOPERATIVE Rincon, New Mexico**

*A flour mill located in New Mexico, but owned cooperatively by Kansas wheat producers, opened in 1998. This flour mill adds value to producers' raw commodities by further processing wheat into flour for tortillas, a product with an increasing demand. Each share of stock purchased by members for \$5,000 provides ownership in the flour mill and obliges them to supply 2,850 bushels of wheat each year. A total of 550 wheat producers supplied \$2.7 million of equity stock to become members of this venture.*

##### 2.42 Increased Focus on Consumers

Food processors respond to customer fragmentation by offering more uniquely targeted lines of food, while experimenting with novel forms of advertising and

promotion to reach the intended segments more efficiently. When incomes rise, consumers tend to buy a wider variety of unique food products that are highly processed and highly advertised and are less price elastic than the traditional foods they replace. Consumers also increasingly rely on brand or company reputations as quality guides (Connor et al.). This case study shows how certain consumers desire unique food products.

**ALL NATURAL BEEF  
MARKETING COOPERATIVE  
Bronson, Kansas**

*Americans are becoming more health conscious about their diets. All Natural Beef is marketing naturally produced beef to upscale consumers in the Kansas City region in response to this trend. This closed cooperative has discovered a market with great potential for dry-aged beef that is free of artificial hormones and antibiotics. It receives a premium price for providing beef products with these characteristics.*

Preparation convenience is a key feature of foods purchased by busy, affluent households. In fact, the number of food service meals eaten away from home has increased by 50 percent in the last 20 years. Six significant growth trends in consumer demand have been identified: (1) more convenience, (2) ethnic-identify foods, (3) aging of the population, (4) low-calorie foods, (5) fresh foods instead of frozen or canned, and (6) healthy natural foods (Connor et al.).

Value-adding producers should focus on products that fill these consumer desires or market niches. By utilizing value-added precepts for business development, producers can identify the desires of consumers and target markets, rather than taking the commodity to the market and hoping that consumers will like it and use it. Target markets are tightening as retailers and consumers pay more for a narrower range of eating experience. Hitting these target markets means that value-adding businesses must know their consumers' desires.

In summary, producers should stay attuned to the needs of the marketplace, instead of concentrating only on production and ignoring the final marketed product. They should see themselves producing consumer products instead of farm commodity products.

### **2.43 Biotechnology**

The evolution of biotechnology in the 1990s is expected to cause a restructuring throughout the world food and agriculture system. Newly formed life science companies will redefine the role of creating and capturing value through genetics and processing (Egerstrom). More value-added crops with specific traits for food, industrial uses, and possibly even medicinal traits will be forthcoming. The costs of segregation and identity preservation of these unique crops can be high. However, when the value is truly evident, the marketing and distribution system will accommodate the special requirements of channeling products from producers to end users (Akridge et al.).

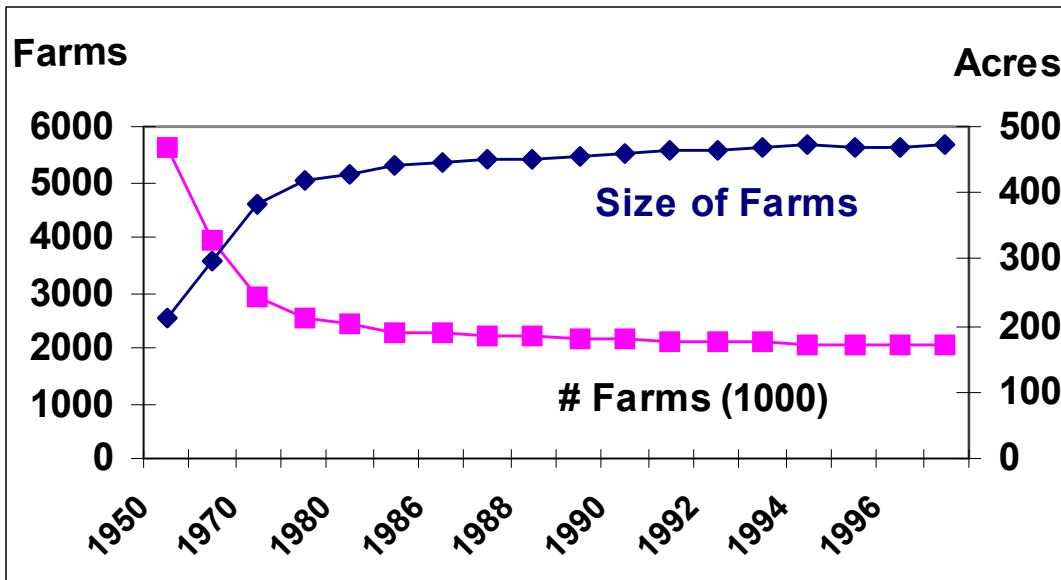
### **2.44 World Trade**

Trade agreements including the North American Free Trade Agreement and pacts among the World Trade Organization have facilitated greater and freer trade of agricultural commodities among its member countries. These changes in the international trading environment are greatly influencing agriculture production, processing, and marketing industries through increased imports and displacing or complementing domestic production. Indeed, increasing access to foreign markets is essential for a profitable and growing agricultural sector, especially with value-added processing and marketing.

## **2.5 DECLINING RURAL ECONOMY**

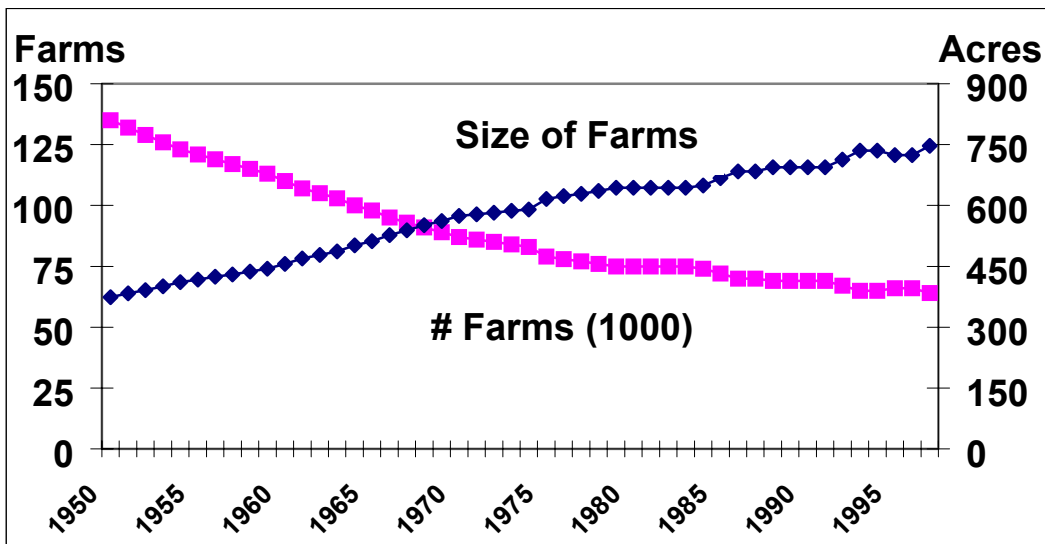
Steady declines in the number of farms and growth in average acreage per farm have occurred for a number of years in the US and Kansas (Figures 7 and 8). Kansas had 135,000 farms averaging 374 acres each in 1950, but only 64,000 farms with an average 747 acres per farm in 1997. Looking at the US as a whole in 1997, 2,058,000 farms averaged 471 acres per farm. This contrasts with 5,648,000 farms averaging 213 acres in 1950. The USDA projects a 1.1 percent annual decline in farm numbers through 2010, when it estimates that 360,000 commercial farms will account for 82 percent of farm gross income (Tweeten).

Figure 7: Number of Farms (thousands) and Size of Farms in the US, 1950 to 1997



Source: USDA Economic Resource Service

Figure 8: Number of Farms (thousands) and Size of Farms in Kansas, 1950 to 1997



Source: Kansas Agriculture Statistics

The pattern of economic growth in farm-dependent rural counties in the 1980s depended on either being an active trade center for a much larger region or having a concentration of food processing activity (Barkema and Drabenstott). Value-added product development provides excellent opportunities to stimulate economic development, as the following case study demonstrates.

**RENVILLE COOPERATIVE COMPLEX**  
**Renville, Minnesota**

*This community of 1,300 is the home of seven closed cooperatives and four traditional cooperatives plus two more closed cooperatives in the planning stages. The value-added businesses include a sugar beet processing plant, a 10,000-sow swine seedstock operation, an egg production facility for two million hens, a feed manufacturing plant, and a tilapia fish farm. Most of these member-owned cooperatives were established to increase the value of producers' corn and soybeans in addition to improving the employment opportunities in Renville. In fact, more than 300 jobs were created in the 1990s by these business ventures.*

## CHAPTER 3: HOW TO BECOME INVOLVED IN ADDING VALUE

Value-added projects should start with intelligent market information on customers and competitors to make sure an opportunity exists. A recipe for success is to begin with a basic commodity and add a healthy dose of ingenuity to create a product desired by consumers that also has a valuable edge on the competition. Successful groups enlist the counsel and involvement of many experts and stakeholders, study conditions and trends, develop a vision, chart the future, and develop strategic and operational plans with which producers can identify.

Following are some important steps listed by one expert to establish a value-added business:

- Start by choosing something you love to do.
- Establish good relations with customers to identify products that will appeal to them.
- Maintain consistent supply of high quality products.
- Make sure that products will be in high demand over the long term.
- Partner with people possessing good technical expertise.
- Carefully hire consultants with expertise.
- Hire an experienced project manager.
- Have a complete plan prior to start.
- Make long-range plans.
- Plan on more time, effort, and expense than expected.

Source: O'Neill

This case study demonstrates how one successful cooperative business venture followed many of the steps given above.

### ***NORTH AMERICAN BISON COOPERATIVE New Rockford, North Dakota***

*This cooperative raised 100 percent of the funds needed to build a \$1.6 million processing plant with equity investments from 180 producers in 1993. Shares were sold for \$250, with a minimum of 10 shares and no maximum. Each share entitled the bison producer to deliver one finished animal a year to the processing plant, which currently processes 10,000 bison per year. The processed meat then is marketed into upscale East Coast restaurants and Europe. The cooperative has been so successful that additional processing plants are being discussed. Much needed development of processing facilities, markets, and marketing channels was achieved by this cooperative through partnering with experts to become the success that they are today. Ken "Doc" Throlson had a dream to process bison and was a key leader in starting this value-adding cooperative.*

In general, four different methods can be used to add value to producers' raw commodities. These methods are

(1) selling into open markets for normal distribution channels of marketing and processing, (2) investing in a portfolio of food companies, (3) using production or marketing contracts, and (4) forming of producer-owned businesses.

### **3.1 OPEN MARKET DISTRIBUTION AND PROCESSING CHANNELS**

Food marketing channels include all the institutions and processes by which food moves from the producer to the end user. Perishable products, such as fresh produce, move through shorter channels, whereas more storable products, like frozen pizza, utilize longer distribution channels. The purpose of middlemen has been to smooth the flow of goods from manufacturers or growers who produce large quantities of a few items to consumers who desire to purchase small quantities of many items. However, as retail chains have grown larger and more concentrated, food processors have found it advantageous to negotiate with and distribute directly to large retail customers (Connor, Schiek, and Uhl) et al.

Over the last 20 years, food processors have provided innovative, easy-to-prepare foods with convenient packaging, because consumers desire product quality, variety, food safety, and nutrition. In addition, fulfilling consumers' desires will necessitate closer coordination and communication between agricultural producers and food processors. Additional value related to food preparation that was provided in the home or restaurant is now contributed by processors, especially in niche products and specialty items. Successful processors in the future will add value through greater convenience, nutritional qualities, and/or fresher taste (Durham et al.).

The next section describes direct marketing, conventional marketing, and niche marketing and also provides some general marketing tips.

#### **3.11 Direct Marketing**

A technique producers can seek to add value to their products is marketing to the end consumer through direct marketing channels. Direct marketing includes individual producer processing businesses, roadside stands, farmers' markets, and community supported agriculture (CSA). A CSA involves a partnership agreement between growers and consumers to provide vegetables and fruits throughout the season, while sharing both the risks and rewards involved in production agriculture. Consequently, producers must know the potential customer base, their income level, household size, age, ethnic group, and education level to estimate the demand for direct marketing. An example of direct marketing is presented in this case study.

## J G MEIER & SONS

### Topeka, Kansas

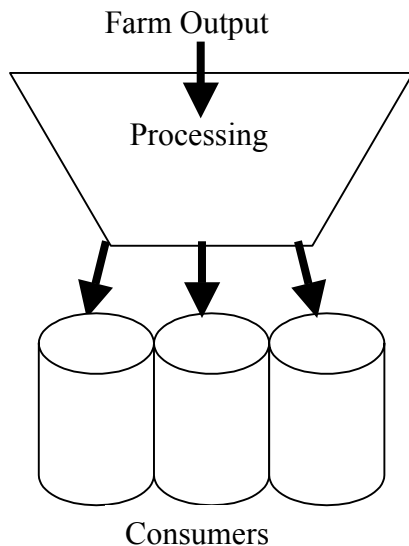
Tony Meier and his family produce vegetables and then market them using both direct and conventional channels. A roadside market that is open from April to December sells all types of vegetables—from early spring crops and the main summer vegetables of tomatoes, sweet corn, watermelons, and cantaloupes through fall decorations featuring pumpkins to the season-ending cole family of turnips, cabbage, broccoli, and cauliflower. The Topeka Farmers' Market is another important direct market channel that is utilized. In addition, conventional vegetable marketing channels are put to use including supermarkets, wholesale distributors, and vendors.

### 3.12 Conventional Marketing

Conventional marketing for grain production consists of selling to grain elevators, terminal markets, feedlot operators, and other livestock producers. The conventional method of marketing livestock generally is to deliver finished livestock to animal packers and processors. Traditionally, value-added activities occur in the final stages of the agricultural commodity-marketing channel. However, opportunities exist at the beginning of the chain. For example, the introduction of identity-preserved grains can provide value-adding opportunities. Opportunities come in many shapes and forms, and the window of opportunity can change quickly.

Producers today are looking for opportunities to add value to their products, but they are finding that those opportunities may not fit traditional molds. Value-added agriculture takes research, innovation, and drive. In fact, when the value-added venture becomes operational,

Figure 9: The Traditional Food Marketing System.



Source: Barkema and Drabentstott

members are transformed from commodity producers into processors and marketers of a finished, value-added, food product. This case study describes how producers add value to their milk by processing it into various cheeses that then are marketed conventionally to food distributors.

## DAKOTA DAIRY SPECIALTIES

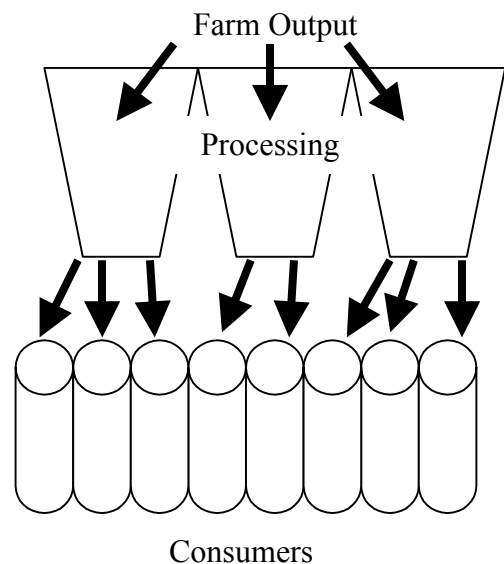
### Hebron, North Dakota

Sixty dairy producers formed this cooperative by purchasing shares for \$1.5 million to deliver milk and provide equity for the producer-owned processing facility. They are paid according to the market price for milk and share in the profits of the specialty cheeses and ice cream produced in their facility. In this regard, the producers benefit by adding value to raw milk by processing it into cheese and then marketing the cheese through conventional marketing channels.

### 3.13 Niche Marketing

Niche marketing is a successful part of creating a need for value-added products. Even so, producers must rely on market planning, not emotion or guesswork, when producing to fill a market niche. Products must be developed carefully by targeting a specific group of consumers and focusing markets to smaller targets. Figure 9 portrays bulk farm commodities flowing into the processing sector through conventional commodity markets. In contrast, Figure 10 shows the new food marketing system as one in which farm products at production are targeted for more specific final uses and flow through narrower market channels to meet specific consumer needs.

Figure 10: The New Food Marketing System



Niche marketing can achieve a higher market share and larger profits because of these advantages, (1) Market penetration is achieved without the vast expenditures normally needed to dominate the market and without attacking established brands. (2) High market share can be obtained against competitive products. (3) The product is positioned so that exclusive identification of that product is accomplished.

A niche-marketing program has other characteristics. (1) New uses or demands for existing products are discovered. (2) New products for current or still unknown markets for consumer desires are developed. (3) Current product lines are expanded to create more consumer use.

Niche marketing can be established in two ways: (1) analyzing the impact of trend or need among current and prospective users and then determining if the trend might create an opportunity for a new product or if a current product can be promoted in a new way, (2) continually monitoring product users to find out ways to subdivide them into niches. These divided groups can provide a market in which an existing or new product can be promoted (Watts). An example of niche marketing is illustrated by this case study.

#### **SANTA FE TRAIL GROWERS ASSOCIATION** **Kansas City, Missouri**

*Enticing consumers to their direct sales businesses was the purpose of 17 specialty crop growers. This informal marketing group charges members \$150 to print publicity brochures and to contact radio and TV stations when different crops are in season, including asparagus, berries, peaches, apples, pumpkins, and Christmas trees. Working together on promotion has benefited this group of producers, because they target consumers who enjoy purchasing products straight from the farm and from the growers who produced the special crops.*

#### **3.14 Marketing Tips**

In summary, here are some marketing suggestions:

- Have multiple, diverse markets, because some may fail.
- Find a unique niche that is hard to imitate and develop a product to fit it.
- Realize that it takes hard work, commitment, and time to build a market.
- Provide higher quality products and services instead of competing for the lowest prices.
- Understand your potential market: viable prices, quantity, and quality demanded.
- Build relationships with consumers directly so they will not shift to lower-priced products if large agribusinesses try to undercut the market.

Source: O'Neill

### **3.2 PORTFOLIO APPROACH**

An alternative solution to becoming involved in adding value to commodities is a portfolio approach to off-farm investment. This approach involves the purchase of publicly traded stock in firms already purchasing, processing, and marketing the producer's raw product. This is a viable alternative for a producer considering directly investing in postharvest activities or seeking to link his farming operations to participate in the risks and rewards of downstream integration from the farm gate.

The advantages of investment in publicly traded companies when compared to other value-adding strategies include: no purchasing of facilities or equipment, no development of new products, no hiring of new management and employees, or the acquisition of new customers. It eliminates the costs associated with vertical integration, but downstream control or influence is virtually nonexistent (Siebert, et al). Nevertheless, before specific value-adding ventures have been established, producers can become involved in downstream market integration of the raw commodities they are producing.

### **3.3 PRODUCTION OR MARKETING CONTRACTS**

Contracting for coordination between processors and producers has existed in the past for some products. The relationship has been extended in recent years so that processors might obtain inputs with special characteristics. Although not yet common in grain, oilseeds, or red meat, this is changing, because wheat is sometimes priced on protein content and hogs are priced on leanness (Durham et al.). With production and marketing contracts, producers are able to add value to their production and are not faced with all of the inherent output price risks that growing without contracts would entail.

### **3.4 PRODUCER-OWNED BUSINESSES**

The potential market, production costs and the pricing structure for the value-added product must receive high priority when considering the feasibility of any value-added, producer-owned, business venture. Agricultural businesses involved in adding value should have effective marketing programs with these four basic requirements: (1) engage in strategic planning to establish goals and effectively use resources; (2) have a marketing program that is market-oriented, rather than production-oriented; (3) acquire adequate financial resources; (4) hire experienced management with expertise in value-added products (Hardesty).

#### **3.41 Steps for Forming Producer-Owned Businesses**

The formation of a producer-owned business generally involves 12 specific developmental steps from starting with an idea to becoming a successful business venture.

1. Develop an innovative idea.
2. Select a steering committee and advisors.
3. Study the market demand.
4. Assess producer interest.
5. Select an interim board of directors.
6. Conduct a feasibility study.
7. Draft articles of incorporation and bylaws.
8. Develop a business plan.
9. Develop a capital investment plan.
10. Have a membership drive.
11. Hire a management team.
12. Implement a business plan and begin operations.

### 3.42 New Generation Cooperatives

This section describes a specific type of value-added business that has become more prominent in the past few years. In contrast to traditional cooperatives, which generally were established with a defensive agenda to correct market deficiencies, most new generation cooperatives (NGCs) start with an offensive agenda to raise the value of their members' production by becoming an equity partner in processing.

By working together in a cooperative structure to achieve common goals, producers can create economies of scale that allow them to compete with other similar businesses. Equally important, producers pool their risks and enhance their rewards by this group action in the marketplace. This action also strengthens their individual positions as business operators.

Recent studies by the Quentin Burdick Center for Cooperatives at North Dakota State University showed that farmers invested an average of \$25,000 per farmer-shareholder in NGCs and many farmers invested in multiple cooperatives. Producers expected to receive a return on equity of at least 15 percent on these investments (Sands). Although these NGCs attempt to increase profits for producers, investing in an equity drive is still considered risky—especially for marginally successful producers.

Farmers in growing numbers throughout the northern plains, especially in North Dakota and Minnesota, are banding together to form businesses to capture more of the profits that can be obtained from food processing and marketing channels (Royer). This case study describes one successful model for NGCs.

#### **AMERICAN CRYSTAL SUGAR COMPANY** **North Dakota and Minnesota**

*The first producer-owned processing facility in the northern plains was American Crystal Sugar. This cooperative became the model of formation and development for many other NGCs in the 1990s. In 1973, producers became member owners in the processing of sugar beets. Since that time, American Crystal Sugar's acreage has increased from 165,000 acres to 400,000 acres. Initially, marketing rights could be purchased for*

*\$100 per acre. By 1994, marketing rights sold for \$2,100 per acre. By employing a quality payment system, growers have adopted production practices resulting in more sugar and fewer impurities in the beet root. This allows producers to profit more from processing, because they are the owners of the three processing plants operated by American Crystal Sugar Company.*

Dramatic changes focusing on expanding global marketing are opening doors for cooperatives. This allows cooperatives to expand into value-added enterprises, to form creative joint ventures and strategic alliances with successful marketing companies, to form subsidiaries, and to expand internationally (Egerstrom). The following case study illustrates a joint venture for livestock producers.

#### **US PREMIUM BEEF, LTD.** **Kansas City, Missouri**

*US Premium Beef was established in 1996 to develop a branded, high-value, producer-owned, beef-production system. In 1997, USPB entered into a pact with Farmland National Beef, a subsidiary of Farmland Industries. Farmland National owns two premium brands—Farmland Black Certified Angus Beef and Farmland Certified Beef and also markets beef under the Certified Angus Beef brand. All three represent quality and price premiums that USPB leaders were seeking. In addition, USPB cattle are sold to Farmland National according to a pricing grid, and members receive carcass data at no additional charge. This information is used to determine genetics and management practices that will produce the high quality beef consumers demand. The cooperative has more than 1,000 members in 28 states.*

An NGC generally is structured around raising substantial amounts of capital to finance the acquisition or construction of a processing facility. As a result, a substantial amount of equity capital must be raised from members, and the rest of the business asset financing usually comes from borrowed capital. The NGCs are closed cooperatives that limit the number of members and/or shares that can be offered. Normally, this is done by setting a cut-off date for producers to become members. In addition, the NGC is structured with member marketing agreements to assure that the business has a set supply of product to fulfill the demand of its processing markets. These agreements are binding to both the producer and the business cooperative and provide stability. For these reasons, NGCs may provide additional annual farm profits and also a liquid and transferable investment.



## SUMMARY

Adding value is the process of changing or transforming a product from its original state to a more valuable state that is preferred in the marketplace. Market forces have led to greater opportunities for adding value to raw commodities because of increased consumer demands regarding health, nutrition, and convenience as well as technological advances that enable producers and processors to produce what consumers desire. Producers involved with adding value are striving for a larger share of the food dollar by producing what consumers demand, instead of producing only raw commodities.

Adding value to products can be accomplished through innovation and/or coordination. Innovation focuses on improving existing processes, procedures, products, and services or creating new ones. Industrial innovation is processing traditional food products into nonfood uses. Coordination involves arrangements along the food chain. Horizontal coordination entails pooling or consolidation from the same level of the food chain. Vertical coordination involves contracts and agreements along different food-chain levels. A coordinated effort increases market power, which likely will continue to increase in the future. Vertical integration aligns and controls price, quantity, quality, and transactions. Cooperatives are positioned to further integrate into food processing with thorough planning and implementation through the process of value-adding business ventures.

Adding value to farm products becomes vital for rural growth by enhancing farm income and providing employment in processing businesses. However, before producers examine value-added processing and marketing, cost minimization in production has to be achieved. Adding value cannot replace the efficiencies of production attainable through technology and economies of scale.

The price spread or marketing bill between the farm value of products and the retail value has increased steadily increased for the past 40 years. During this time, the farm value in real dollars has remained nearly constant, while the marketing bill has more than doubled. In 1997, the farm value of food was 21 percent and the other 79 percent came from value-adding processes. Since 1980, the return on equity for food companies has averaged almost 16 percent, whereas the farm return on equity has averaged about 0 percent. With an inelastic demand curve, percentage changes in food prices have a smaller percentage effect on the quantity demanded. As consumer desires become more varied, value-adding activities have the potential to become more numerous.

## REFERENCES

Akridge, J., D. Downey, M. Boehlje, K. Harling, F. Barnard, and T. Baker. 1997. "Agricultural Input Industries." Food System 21 Gearing Up for the New Millennium, Chapter 15. Purdue University Cooperative Extension Service, West Lafayette, Indiana.

However, the risk in starting a value-adding business is high, especially in the early years.

Agriculture production is in the midst of a transitional period caused by a reduction in federal price support, changes in consumer desires, increased use of biotechnology and information technology, and increased world trade. These changes provide opportunities for producers to add value to their products by moving up the food chain closer to the final purchase by consumers. Progressive producers respond to market developments, determine what factors will drive the future of their industry, and turn these results to their advantage by adapting to change. Producers can identify target markets instead of delivering their commodities to conventional markets and hoping that consumers will use them. Value-added product development provides excellent opportunities to stimulate economic growth in the rural sector, which has declined steadily in the number of farmers and jobs.

Value-added projects should start with intelligent market information on customers and competitors to make sure an opportunity exists. Successful groups use many experts and stakeholders, study conditions and trends, and develop a vision toward the future with strategic planning. Four methods are identified for producers to add value to their production: (1) selling into available distribution channels, (2) investing in a portfolio of food companies, (3) using production or marketing contracts, and (4) forming producer-owned businesses.

Available distribution channels include direct marketing to consumers; conventional marketing (e.g., identity preserved grains), and niche marketing, which selectively targets a specific market. Portfolio investments in food companies that utilize producers' commodities could allow these producers to realize value-adding profits. Production or marketing contracts coordinate producers and processors to obtain desired inputs with special characteristics.

Producer-owned businesses are becoming more prominent methods to add value. One model is called a new generation cooperative (NGC). These NGCs start with an agenda to raise the value of their members' production by creating economies of scale to compete with established businesses. Producers pool their risks and enhance their rewards through this group action. An NGC is structured from substantial producer equity for the business venture. Marketing agreements between the producer and the business are binding and ensure that a supply of product is available to meet the processing demand.

Barkema, A., and M. Drabenstott. 1996. "Consolidation and Change in Heartland Agriculture." Economic Forces Shaping the Rural Heartland. Federal Bank of Kansas City, Missouri.

Barkema, A., and M. Drabenstott. 1995. "The Many Paths of Vertical Coordination: Structural Implications for the US Food System." *Agribusiness*, 11(5)

- Boehlje, M. 1996. "Industrialization of Agriculture: What Are the Implications?" *Choices* First Quarter
- Brown, M. and M. Petrusis. 1993. Value-Added Agriculture as a Growth Strategy, Bulletin 644-10, USDA Economic Research Service, Washington, D.C.
- Conner, J., W. Schiek, J. Uhl, and S. Hiemstra. 1997. "Consumer Demand for Food." Food System 21. Gearing Up for the New Millennium, Chapter 6. Purdue University Cooperative Extension Service, West Lafayette, Indiana.
- Dobbins, C., H. Doster, J. Lee, J. Lowenberg-DeBoer, G. Patrick, and W. Uhrig. 1998. "Grains and Oil Seeds Sector." Food System 21. Gearing Up for the New Millennium, Chapter 13. Purdue University Cooperative Extension Service, West Lafayette, Indiana.
- Durham, C., W. Schiek, L. Schrader, P. Nelson. 1997. "Food Processing Industries." Food System 21. Gearing Up for the New Millennium, Chapter 8. Purdue University Cooperative Extension Service, West Lafayette, Indiana.
- Egerstrom, L. 1996. "Taking the Pulse of Agriculture." *Year in Cooperation* Spring.
- Egerstrom, L. 1998. "Co-operative Restructuring and the Societal Role of Co-operatives." A paper prepared for the 1998 Summer School, the Netherlands Institute for Co-operative Entrepreneurship, Nijenrode University.
- Ghelfi, L. 1993. Rural Economic Disadvantage, Bulletin 644, USDA Economic Research Service, Washington, D.C.
- Glickman, D. 1998. Available online June 20, 1998. <http://www.massgrown.org./grower/fmr01-98.htm#>. Sec. Glickman Announces Publication of National Organic Program Proposed Rule.
- Hardesty, S. 1993. "Programs for Effective Marketing of Value-Added Products by Agricultural Cooperatives." *The Cooperative Accountant* Fall.
- King, R. 1992. "Management and Financing of Vertical Coordination: An Overview." *American Journal of Agricultural Economics*, 74(5).
- Kraybill, D., and T. Johnson. (1989). "Value-Added Activities as a Rural Development Strategy." *Southern Journal of Agricultural Economics*.
- O'Neill, K. 1997. Emerging Markets for Family Farms. Center for Rural Affairs. Walthill, Nebraska, p.18-19.
- Peterson, C., and A. Wysocke. 1997. "The Vertical Coordination Continuum and the Determinants of Firm-Level Coordination Strategy." Presented at the Annual WCC-72 Meeting, Las Vegas, Nevada, June 12, 1997.
- Putman, J. 1997. "Food Consumption, Prices, and Expenditures, 1970-95." USDA Economic Research Service. Available online February 24, 1999. <http://www.econ.ag.gov/epubs/htmlsum/sb939.htm>.
- Reimund, D., and D. Harrington. 1993. Trends in Numbers, Sizes, and Ownership of Farms, Bulletin 644-27, USDA Economic Research Service Bulletin, Washington, D.C.
- Royer, J. 1995. "Potential for Cooperative Involvement in Vertical Coordination and Value-Added Activities." *Agribusiness* 11(5).
- Sands, L. 1997. "Nothing Ventured, Nothing Gained: How to Boost Your Chances of Successful Co-op Investing." Available online June 19, 1997. <http://www.farmjournal.com/FJ/sear...cle.cfm?ID=2236&search=cooperative>.
- Siebert, J.W., R. Jones, and T. L. Sporleder. 1997. "The VEST Model: An Alternative Approach to Value Added." *Agribusiness* 13(6).
- Sporleder, T. 1992. "Managerial Economics of Vertically Coordinated Agricultural Firms." *American Journal of Agricultural Economics* 74(5).
- Tilley, D. 1989. "Value-Added Activities as a Rural Development Strategy: Discussion." *Southern Journal of Agricultural Economics*
- Tweeten, L. 1994. "Twenty-First Century Agriculture: Besieged, Productive, and Profitable." Paper presented at North Central Region Farm Management Extension Committee Meeting, Kansas City, MO, October 6, 1994.
- USDA Economic Research Service. 1998. Various tables available online March 2, 1999. <http://www.econ.ag.gov/briefing/foodmark/cost> data.
- Value Line Publishing*. 1999. April 12, 1999.
- Watts, J. 1995. "Ag Opportunities." Missouri Alternatives Center Newsletter 5(1).