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An evaluation and prospectus of the Value-Added Agricultural Products and Processes Financial Assistance Program of the State of Iowa

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An evaluation and prospectus of the Value-Added Agricultural Products and Processes

Financial Assistance Program of the State of Iowa



by

Nadezhda K. Novotorova

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
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This is to certify that the Master's thesis of
Nadezhda K. Novotorova
has met the requirements of Iowa State University

Signatures have been redacted for privacy

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CHAPTER 1

INTRODUCTION

In today's global economy, value-added and innovative products play an important role in the success of many U.S. agribusinesses. Value-added agriculture offers good economic growth potential by reducing dependence on foreign imports, providing an alternative use for farm products, improving the environment, creating jobs and strengthening rural economic development.

However, entrepreneurial firms with an ambition for innovation may encounter many barriers before succeeding in this mission. Access to external finance (e.g. loans, grants, venture capital) for agribusinesses that are introducing new value-added or innovative agricultural products or services appears to be a major bottleneck. The higher the technological and commercial risks involved in the investment, the more difficult it is to find venture capital¹.

This is particularly true for small and newly emerging firms. In a Dutch survey among innovative firms, the firms were asked to name the most important obstacle throughout the phases of an innovation project. Of the small innovators, 38 percent pointed out that financing was the main obstacle, another 38 percent said market possibilities were the main problem and 25 percent judged that technological issues were the main barrier to success of the project. For the medium and large sized technology driven companies, financing was mentioned as the main barrier in 9 and 12 percent of the companies respectively².

Innovating firms (particularly small and medium-sized companies) need substantial external sources to finance their innovation investments. Often the entrepreneur cannot provide

a large share of the internal capital relative to that which is needed before the first returns on investments are generated. Therefore, public funding could be an important source of financing in these first high-risk phases.

The State of Iowa recognizes that financial assistance is needed for the agribusinesses which want to introduce value-added or innovative products or services. Therefore, the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) was introduced by the Iowa Department of Economic Development in October, 1994. The purpose of VAAPFAP was to encourage the increased utilization of agricultural commodities produced in Iowa. The program assists efforts to revitalize rural regions of the state by providing financial assistance to new or existing value-added production facilities (e.g. renewable fuels facilities).

Among the fifty states, Iowa ranks first in production of corn, soybeans, red meat production, hogs, pig crop and hog marketed. This ranking gives evidence of the national importance of the state as an agricultural region. As the governor of Iowa, Terry E. Branstad noted, "...value-added agriculture transforms crops and livestock into products worth more to the world marketplace, resulting in increased job opportunities and income for Iowans. Iowa State University estimates that value-added agriculture, including livestock production, has the potential to increase rural incomes by 50 percent in just a few years"³.

Purpose of the Study

Little research has been done in the area of public financial support of innovative agribusinesses. Most of the studies have attempted to measure the impact of value-added

agriculture on the U.S. economy and specifically the increase of U.S. exports, and only a few studies have addressed the area of financial support for innovative projects in agribusiness.

This study is the first attempting to examine the effectiveness of the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) in Iowa. Data from the Iowa Department of Economic Development were examined to identify how program funds have been allocated among different types of agribusinesses. A survey was designed to collect and analyze data from the agribusinesses, which have participated in this program. Limitations in analyzing program data also will be addressed.

This study is designed to:

1. Provide an overview of VAAPFAP from 1994 through 1997.
2. Evaluate the effectiveness of VAAPFAP.
3. Determine the possibilities of VAAPFAP for use as a model in other states.
4. Provide a prospectus of VAAPFAP opportunities for the future.

Significance of the Study

The study is intended to serve three basic goals. First, it is intended to provide knowledge about the existing financial support on the state level for agribusinesses interested in developing and introducing value-added or innovative products or services. There is no similar program to the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) at the state level. By having the results of the effectiveness of this program available to public, it could help to promote public awareness of value-added agriculture and its significant economic opportunities.

Second, the results of the study could be used by other states to introduce similar programs to VAAPFAP to assist agribusinesses in adding value to their agricultural commodities.

Third, the study is also intended to add knowledge in the field of agribusiness. There is no doubt that financial assistance and research in the area of value-added agriculture is needed to enhance the competitive value of U.S. agricultural products. Specifically, there is an opportunity to obtain greater economic value from agricultural materials through conversion to high-value products for both domestic and export markets, with the benefits of increased income, job creation, and rural development. This opportunity can be realized through the development of new products (from conventional and new plant and animal sources), making existing products more valuable, increasing process efficiencies, making greater use of co-products and waste materials.

Overview of Thesis

Chapter 2 of this thesis includes a literature search on value-added agriculture. This chapter begins with a discussion of its importance. Two general areas of potential growth in value-added agriculture are noted with specific examples from each area of growth. Next, the increased role of value-added exports was reviewed. Finally, the significance of access to external finance for innovation projects and new technology based firms was emphasized.

Chapter 3 describes Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP), including background of the program, program components, general eligibility, awards, and application procedures.

In reviewing the methodology, Chapter 4 includes definition of terms, sources of data, and method of analysis. A discussion of the thesis research questions is also included in this Chapter. Concluding the chapter are potential delimitations.

Chapter 5 presents the results of the study based on the data from the Iowa Department of Economic Development and the survey responses. The data are analyzed, grouped and compared through the use of tables and graphs in the research areas of size of enterprises, creation of new business compared to the expansion of existing business, usefulness of VAAPFAP, importance of VAAPFAP funds to the project, percentage of funds compared to total invested funds in the project, and employment created by the project. Additionally, five research questions are analyzed to provide conclusions to the effectiveness and efficiency of VAAPFAP.

The implications and significance for practitioners, academics and the field of agribusiness are discussed in Chapter 6. Limitations of the study are shown and addressed. Recommendations for future research concludes this chapter.

Notes

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2. Boekhoit, 762.
3. Terry E. Branstad, "Solid Investment in Iowa's Ag Future," Des Moines Register, (February 13, 1998): 4A.

CHAPTER 2

LITERATURE REVIEW

Agriculture's role in manufacture and commerce is manifest in many ways...the food we eat, the building materials we use, the clothes we wear. That roles strengthened whenever agricultural plant and animal commodities and products reach the shelves of our domestic markets and find their way into the shopping baskets of people of other nations. We must always be seeking to discover, develop, and promote products and technologies which have their origin in a plant or animal material. The bottom line is jobs for our people, markets and value for our endeavors, and health for our economy and Nation (Mike Espy, Secretary of Agriculture)¹.

Areas of Potential Growth in Value-Added Agriculture

The importance of value-added agriculture grows every day. Science and technology are having a profound affect on agriculture. Production agriculture is being affected by new discoveries in genetics resulting in more productive crops that are resistant to many of the threats to high yields. Animal agriculture is being affected by new discoveries in the production of pork and beef. New food products are being produced from raw agricultural products, and new non-food uses of agriculture are being invented.

A number of studies has focused on a future potential of value-added agricultural products and bio-based materials. There is little doubt that once a raw commodity is processed, the final product is more valuable than the original product. Agribusinesses would maximize profitability if commodities received further processing, packaging or marketing.

Halliburton and Henneberry pointed out that “although some may view the value-added movement as a short-lived fad, many within the agriculture and nonagriculture communities have emphasized the need for a diversified and expanded agricultural product portfolio to

foster U.S. competitiveness”². According to Whitney MacMillan, the chairman and chief executive of Cargill Inc., a leading trader of U.S. grain, “the outlook for U.S. agriculture is for greater value-added processing and increased exports of higher-value products”³. High-value products also have more stable prices than bulk products, are easier to differentiate through advertising, and offer a greater rate of return than bulk agricultural commodities priced at 3 to 5 cents/lb.⁴ There are two general areas of potential growth in value-added agriculture: (1) high value-added food products, and (2) innovative non-food products.

High Value-Added Food Products

The first is innovative specialty or high value-added food products that offer greater quality, better nutrition or increased convenience. Microwave-packaged rather than ordinary popcorn, breaded chicken breasts instead of whole chickens, vegetables mixed with a sauce and sealed in a microwaveable or boilable plastic pouch rather than simply frozen are all examples of innovations in this area⁵.

Farmers are becoming more involved in processing and marketing the products they grow. Studies have shown that food processors and marketers received an average 14 percent return on equity, while farmers receive an average 2 percent return. Therefore, as Freund noted, “today's farmers are flexing their financial muscles and using marketing savvy to gain more of the food dollar through value-added agriculture”⁶.

Alternative crops, organic or environmentally oriented production, niche markets and commodity processing cooperatives could benefit farmers. For example, instead of selling turkey to the marketplace, a group of Iowa’s farmers has formed a cooperative and bought the Louis Rich turkey processing plant in West Liberty, Iowa. As the Cedar Rapids Gazette stated,

“...turkey processing in Iowa accounts for more than 5,000 jobs and generates \$83 million in income, which has an economic multiplier effect estimated at about \$580 million”⁷.

Growing organic crops and marketing them through cooperatives is another example of the possibility of making more money for farmers through value-added processing. Freund indicated that “the additional step adds a greater return, enabling the farmers to generate more economic flow back into the community. Farmers need not change occupation or acquire a second job to make more money, but instead can involve themselves in value-added agriculture”⁸.

Transforming agricultural commodities into food and other products is an important activity for economic development, increasing employment as well as for increasing prices received by farmers and ranchers.

Industrial Non-food Products

The second area of potential growth in value-added agriculture is industrial non-food products derived from oilseeds or other grains. According to The Cargill Bulletin, in the last few years, policymakers, farmers, agricultural businesses and researchers have banded together to advance the new non-food uses of agricultural products⁹. There are new products from traditional crops such as ethanol made from corn, plastic polymers made from starch, high-strength composites from wood fibers, printing inks and varnishes from soybean oil. There are new products from new crops such as lubricants from crambe and rapeseed, natural rubber from gualle, cosmetics and industrial greases from lesquerella, paper from kenaf.

As has been proven by numbers of studies, the ethanol industry has made a significant contribution to the American economy. A combination of immediate environmental concerns

and the related issue of what is considered a risky level of reliance on imports of nonrenewable petroleum made ethanol a major public issue. The private sector has joined forces with government in pumping millions of dollars to fuel ethanol's future.

According to the Des Moines Register, the ethanol industry in 1997 alone used 440 million bushels of corn and is expected to raise farm income by up to \$10.2 billion over the next eight years¹⁰.

Findings regarding the economic impact of ethanol on the U.S. economy are summarized by Urbanchuk¹¹. He argued that the goods and services purchased by ethanol producers represent purchases of final demand of other industries. These include purchases of corn and other grain from farmers (agriculture), natural gas, electricity, water and sewer, and telephone (utilities), and accounting and legal services (business services). Each of these supplier industries in turn purchases inputs from other industries. If ethanol producers were no longer in business, these supplier firms would have to find alternative markets for their output. Urbanchuk noted the significance of ethanol for crop producers. He stated that farm income will be \$2.2 billion, or nearly 3 percent, higher each year because of ethanol production. If the market for ethanol did not exist, corn stocks probably would rise, prices would fall, profitability would decline and farmers would be encouraged to plant other crops. He reported that ethanol supports 55,500 jobs each year. Ethanol production directly accounts for over 5,800 jobs in the food processing industry in 17 states. As the demand for ethanol grows, the number of people directly employed by the industry will also increase. Additionally, the spending of ethanol manufacturers on goods and services, which represents the creation of

final demand, will indirectly support an average of 48,900 jobs annually throughout all other industries in the entire economy.

As Sam Brownback, Kansas Secretary of Agriculture, noted: “A number of nonfood agricultural products are in the commercial marketplace, but this initial stream of products needs to become a flood”¹². He indicated that the vision exists to expand the mission of U.S. agriculture from food and fiber production to food, fuel, pharmaceuticals, and industrial feedstocks. Brownback further stated that the desire exists to expand the contributions of U.S. farmers and agribusinesses to the economy through increased value-added product offerings while, at the same time helping the environment. In order to accomplish that vision and desire, he suggested that agriculture must take several steps:

- Have an industry-wide discussion on the advantages and disadvantages of focusing efforts on industrial uses - a discussion which must culminate in a consensus on the topic;
- Focus research resources from agriculture and other relevant fields increasingly into nonfood uses of farm commodities;
- Get close to consumers. We must find out what bio-based products consumers want and what they will pay for them;
- Commercialize research efforts rapidly through “product consortia” consisting of business, university, and government organizations highly focused on getting a particularly bio-based product on the market;
- Emphasize technology transfer; and,
- Show the public what we can do¹³.

Lotterman argued that both groups of products—high value-added foods and industrial non-food products—will have markedly different economic impacts. While innovative value-added specialty products tend to be relatively labor-intense, industrial non-food products tend to employ few workers. At the same time, high value-added foods tend to use relatively small

quantities of agricultural products as inputs and may have limited impact on general agricultural prices or profitability. Facilities that transform oilseeds or feed and food grains into non-food products generally use far larger quantities of agricultural commodities and may significantly increase commodity prices. However, they are extremely capital-intensive¹⁴.

Value-Added Agricultural Exports

High value products accounted for more than 80 percent of world agriculture trade from 1987 through 1989¹⁵. The continued growth of value-added exports provides long-term security for all players in the agricultural industry, from farmers to food companies and their employees.

During the last 20 years, international trade has become increasingly important to the U.S. agricultural sector. In 1996, U.S. agricultural exports reached a record high of nearly \$60 billion, helping boost farm income, generating billions more in additional economic activity and providing jobs for over one million Americans¹⁶.

A number of previous works have focused on the importance of exporting processed instead of raw agricultural products. Lee, Henneberry, and Pyles felt that the term “value-added agricultural exports” denoted both processed products, because they have added value through some processing, and unprocessed high-value commodities. Nuts, fresh fruits, and vegetables are categorized as unprocessed high-value commodities. Processed products can include both semi-processed and highly processed products (see Table 2.1). This study indicated that historically, the United States has exported low-value primary products because it has had a comparative advantage in producing bulk commodities such as wheat, cotton, corn, and soybeans.

Table 2.1. Classification of Agricultural Commodities in Bulk and Value-Added Form

Commodity Groups	Bulk	Value-Added
Grains and Feeds	Unmilled Wheat	Wheat Flour
	Feed Grains	Bulgur Wheat
	Rice, Milled	Feeds and Fodders
		Other Grain Products
		Other Wheat Products
Oilseeds and Products	Oilseeds	Oilcake and Meal
		Vegetable Oils
Animals and Animal Products	Animals, Live (Including Poultry, Live)	Meats
		Dairy Products
		Fats, Oils, Greases
		Hides and Skins
		Wool and Mohair
		Sausage Casings
		Bull Semen
		Misc. Animal Products
Horticultural and Tropical Products	Hops, Including Extract	Fruits and Prep.
	Rubber-Crude, Natural	Fruit Juices
	Pulses	Wine
	Fibers except Cotton	Nuts and Prep.
		Vegetables and Prep. (Excluding Pulses, Hops)
		Sugar and Tropical Products
Cotton, Tobacco, Seeds, and Others	Cotton	Beverages (Excluding Juices)
	Tobacco-Unmtg.	Nursery and Greenhouse Products
	Seeds	Essential Oils

Source: Lee, Henneberry, and Pyles, 1991: 142

Lee, Henneberry, and Pyles argued that the factors causing the sharp drop in exports of bulk commodities were a substantial production increase in both major exporting and importing countries, strong value of the U.S. dollar, the impact of global debt, and increased self-sufficiency in many developing country markets. However, despite these circumstances, the value-added exports have shown little decline and has been increased to 42.5 percent of total agricultural exports in 1988 from 29.5 percent in 1980 (see Table 2.2)¹⁷.

Table 2.2. U.S. Agricultural Exports by Category of Bulk and Value-Added Commodities in Millions of Dollars, 1980-1988

Year	Bulk	Value-Added	Total	Percentage*
1980	29,073	12,160	41,233	29.5
1981	30,545	12,792	43,337	29.5
1982	25,425	11,198	36,623	30.6
1983	24,925	11,174	36,099	31.0
1984	26,357	11,447	37,804	30.3
1985	18,506	10,520	29,026	36.2
1986	14,436	11,781	26,217	44.9
1987	15,813	12,825	28,638	44.8
1988	21,341	15,752	37,093	42.5

*Includes semi-processed and processed products (because it has added value through some processing) as well as some unprocessed high value products such as fresh fruits, vegetables, and nuts.

Source: Lee, Henneberry, and Pyles, 1991: 142

As Duram and Lyon stated: "While greater benefits are expected to accrue from higher-value food exports, there would not be such an interest if manufactured food exports from the U.S. were not so low relative to other developed nations"¹⁸. They found that in both 1975 and 1985 processed food shipments from the U.S. were the lowest amongst the OECD member nations, with the exception of Japan. Only about 4 percent of processed food

production was exported during most of the eighties. While this situation has improved, US shipments of consumer-oriented foods held only a 16 percent share of world trade in 1993 compared to a 25 percent share for the European Union¹⁹.

The U.S. effort has been limited by a numbers of factors, including significant trade barriers in foreign markets, high U.S. labor costs, and either the size of the U.S. domestic market being large enough to keep U.S. producers satisfied at home or the attraction of off-shore production through licensing agreements and joint-ventures with foreign companies²⁰.

Schluter and Clayton argued that when exporting processed commodities instead of their bulk agricultural components, what is actually exported is the domestic goods plus services of assembly, processing and distribution. These can be accounted for as factors in increased business activity, and the associated increase in employment and personal income²¹.

The study of Schluter and Edmondson indicates that exporting processed agricultural products rather than raw commodities benefits society much more than just the increased value of the commodities themselves. They estimated that processing wheat worth \$1million would generate as much as \$9 million in business activity, 109 full-time jobs, \$1.9 million in personal income, \$160,000 in Federal personal income taxes, and \$199,000 in Federal corporate income taxes²². Processing other commodities could yield even greater economic benefits.

During the seven year period 1985-92, U.S. exports of meats, poultry, and dairy products increased by 207 percent or at an average rate of nearly 17 percent. Annual growth rates for beef, pork, and poultry were 24, 29, and 20 percent, respectively. The 207 percent growth in meat, poultry, and dairy products compares to a 476 percent growth for all agricultural products during the 1985-91 period²³. The major markets for most meat, poultry,

and dairy product are Asia, Canada, and Mexico, and these markets have also been growing rapidly. This growth is being driven by increases in consumer income, trade liberalization, environmental and cost constraints in a number of importing countries, and by reliability of the United States as a source of high-quality products at competitive prices. According to the long-term agricultural trade strategy of the USDA, the shift toward greater exports of high-value foods such as meat instead of feed grain has major beneficial implications for the U.S. rural economy. First, expanding exports of red meat and poultry expands domestic demand for feed grain and oilseed meal. Second, the income multiplier effect from high-value exports is greater than from bulk commodity exports (2.88 versus 1.86). This means that dollar for dollar, high-value exports generate more jobs than exports of bulk commodities²⁴.

Findings regarding the economic impact of agricultural exports on the economy of Louisiana are summarized in the study of Bairak and Hughes²⁵. They found that increasing the export of processed products could boost overall activity in Louisiana's economy. Louisiana agricultural exports directly and indirectly generate 35,241 jobs in the State and \$2,197 million in gross sales.

As Stephen MacDonald noted, "of the 1.06 million U.S. jobs tied to agricultural exports, more than half (555,000) are associated with high value product exports. About a third of the jobs generated by U.S. farm exports are nonfarm jobs in food processing, manufacturing, transportation, and other services"²⁶.

Durham and Lyon indicated that expanding exports of agricultural products is the goal of a number of government programs. In this study, domestic and international market

influences upon export behavior are examined to assess government policy to expand exports of processed food²⁷.

Halliburton and Henneberry conducted a comparative analysis of non-price export promotion programs for U.S. red meat and wheat using FAS data for the Targeted Export Assistance Program/Market Promotion Program and Commodity Market Development Program ranging from 1986 through 1988. The results of their study revealed that there are differences in market development strategies for bulk versus value-added products (wheat being a bulk commodity and red meat being a value-added commodity). Specifically they found that the majority of wheat promotions were accounted for as a trade servicing and technical assistance activities in lesser developed countries whereas red meat promotions consisted of primarily generic consumer promotions to higher developed countries²⁸.

Capital for Innovation: A Major Barrier

However, access to external financing for innovative projects and new technology based firms, appears to be a major bottleneck for many entrepreneurs. As Boekhoit alternatively indicated that traditional Research Development (R&D) and the associated public support mechanism seems to be ending in favor of public-private risk-sharing and partnership. Thus, other obstacles to innovation, such as access to risk-capital, become contemporary barriers to innovation other than access to R&D²⁹.

Twenty seven initiatives and public schemes were identified within the European Union in a survey of public mechanisms to mobilize private finance for innovation. Four types of support mechanisms are distinguished by Boekholt:

Mechanisms to reduce the loss for investors: In this type of support schemes public bodies make an ex-post payment to the investor in case of failure of investment. Another type

of mechanism is 'innovation insurance', where the firm and the (public) funders can pay an insurance fee that covers the failure of a particular innovative project. Tax incentives are another possible mechanism.

Mechanisms to increase the liquidity of and rewards for investors: These include measures to facilitate exit-mechanisms and improve the functioning of secondary markets.

Mechanisms to reduce the current costs and/or scale of investment for the investor: Here public bodies give an ex-ante financial support for the investor when investing in a specific type of business. This could be part of the investment sum (co-investment), or tax and interest relief for investment in technology based firms and projects.

Mechanisms to attract new type of investors in innovation financing: This type of support aims to attract investors that have no familiarity with technology based firms. These could be either very traditional institutional investors, or wealthy private persons preferably with managerial expertise³⁰.

Summary

The importance of value-added agriculture grows every day. In the area of food production raw commodities are transformed into new food products which are frozen, dried, microwavable, packaged, and offer convenience, quality and nutrition. Non-food products of fuels, pharmaceuticals and industrial feedstocks create opportunities in increased utilization of farm commodities. Economic development implications provide employment (production, product development, marketing) and markets (domestic and export) for farmer-produced products; both of which results in additional income to the U.S. economy.

One of the major barriers for supporting proliferation of value-added products is access to capital for research and development, production and marketing. One of the financial assistance programs designed and implemented to facilitate the implementation of more value-added products is Value-Added Agricultural Products and Processes Financial Assistance Program, which will be discussed in the following chapters.

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CHAPTER 3

DESCRIPTION OF THE VALUE-ADDED AGRICULTURAL PRODUCTS AND PROCESSES FINANCIAL ASSISTANCE PROGRAM (VAAPFAP)

"Iowa is uniquely positioned to reap significant benefits from the global food market for several reasons. We have abundant natural resources to produce grain and livestock – the two fundamentals required to produce food for the world's tables. We have the infrastructure that can transport, process and market those products. Iowa's productive capacity is unmatched in both agriculture and manufacturing. And, value-added agricultural products offer the best return on investment of any economic sector in the state." (David Lyons, Director of the Iowa Department of Economic Development)¹.

Introduction

The State of Iowa has recognized the significant economic opportunities of value-added agriculture and importance of the public financial support for agribusiness companies in the area of value-added and new innovative products. To encourage increased utilization of agricultural commodities produced in the state, and to assist in efforts to revitalize rural regions of the state by committing resources to provide financial assistance to new or existing value-added production facilities, the 75th General Assembly passed HF 2337 in April, 1994. This Act allocated state funds to create the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP).

VAAPFAP committed funds for its first project in November, 1994. Since then, it has committed over 14.5 million dollars to value-added agricultural businesses in Iowa.

Program Components

There are three components to VAAPFAP:

- *The Agricultural Products and Processed Component*, which relates to operations involved in the development of new and innovative products or processes related to agriculture. An application based on this component shall be considered if either of the following apply:
 1. The business will produce a product derived from an agricultural commodity, if the product is not commonly produced in Iowa from an agricultural commodity;
 - or
 2. The business will utilize a process to produce a product derived from an agricultural commodity, if the process is not commonly used in Iowa to produce the product;
- *The Renewable Fuel Component*, which relates to renewable fuel production facilities with a priority given to those renewable fuel facilities producing a co-product which directly supports livestock production operations.
- *The Project Creation Component*, which was launched in Fiscal 1997. The purpose of this program component is to help develop new business consortiums by bringing together research and ideas. This component is for projects that eventually could be eligible for funding within the other VAAPFAP components.

General Eligibility

A person is eligible to apply for assistance under this program if the following requirements are met:

1. The existing or proposed facility is located in this state.
2. The person applies to the Iowa Department of Economic Development (IDED) in a manner and according to procedures required by the Department.
3. The person submits a business plan which demonstrates managerial and technical expertise.

Awards

Financial assistance awarded under this program may be in the form of a loan, forgivable loan, deferred loan, grant, or a combination thereof. The department will not award more than 25 percent of VAAPFAP yearly state allocation to support a single project. The department may help finance any size of facility. However, the department will reserve up to 50 percent of the total amount allocated for projects of \$100,000 or less.. The 50 percent restriction will apply until the end of the third quarter of the state fiscal year, after which time no percentage allocation will apply to large versus small awards.

Funds available for project awards will be allocated on the basis of 40 percent (Component 1), 40 percent (Component 2), 20 percent (Component 3).

Grants, forgivable loans, and loans shall generally be awarded on the basis of Table 3.1.

For awards of \$500,001 - 900,00 the maximum grant or forgivable loan portion generally shall not exceed \$200,000. The maximum award allowed for any one project is \$900,000 with the average award in the \$20,000 to \$200,000 range.

Table 3.1. Allocation of the VAAPFAP Awards

Total Amount of Award	Minimum Loan %	Maximum Grant %
\$0-100,000	None	100%
\$100,001-200,000	30%	70%
\$200,001-300,000	40%	60%
\$300,001-400,000	50%	50%
\$400,001-500,000	60%	40%

The department reserves the right to provide any project a higher percentage of loan than indicated above. A higher percentage of grant may be provided only with a waiver of the rules by the department director upon a finding that the company being assisted would not be viable without such extra consideration.

Application Procedures

To apply for the VAAPFAP funds, the applicant has to fill out an application form available at the department of economic development. An applicant also must present a comprehensive business plan including the following sections:

- Marketing plan for the project;
- Project budget and status of alternative financing (if applicable);
- Production operation;
- Management structure;
- Personnel needs;
- Description of product, process or practice;
- Status of product/service development;
- Patent status (if applicable).

Subject to availability of funds, applications are reviewed and rated by the IDED staff on an ongoing basis. Applications are also reviewed by the Agricultural Products Advisory Council (APAC) on a regular basis. APAC is a ten-member advisory council with five members appointed by the Secretary of Agriculture and five members appointed by the Director of the Iowa Department of Economic Development. This Council was formed in 1990 by HF 549 and its duties were expanded in 1994 by HF 2337. Recommendations from the IDED staff and the Council are submitted to the Director of the Department for final approval, denial or deferral. The goal of the process of the application's review is to have award decisions made in thirty days from the time the applications are received.

Description of the VAAPFAP projects funded or approved for funding FY 1995-1997 are in Appendix A.

Notes

1. "All Iowans Have a Stake in Value-Added Agriculture," November 18, 1997.
http://www.agvalue.state.ia.us/info/nr_3.htm (April 13, 1998).

CHAPTER 4

METHODOLOGY

This chapter provides an explanation of the methodology used in this study. Definitions, research questions, sources of data, and methods of analysis are included. In regard to the survey respondents, all relevant information and descriptors are provided, with attention taken to preserve the confidentiality of all participants.

Definitions

The following definitions apply to the terms used in this study:

Forgivable Loan: A loan for which repayment is eliminated in part or entirely if the borrower satisfies specified conditions (job support, sale increase, et.)

Grant: A loan which does not have to be repaid.

IDED: The Iowa Department of Economic Development

Innovative: A new or different agricultural product or a method of processing agricultural products which is an improvement over traditional methods in a new, different, or unusual way.

Loan: An award of assistance with the requirement that the award be repaid with term, interest rate, and other conditions specified as part of the award.

Value-Added Agriculture: An area of business which transforms crops and livestock into products worth more to the world marketplace.

Value-added agricultural product: A product, which through a series of activities or processes, can be sold at a higher price than its original purchase price.

VAAPFAP: The Value-Added Agricultural Products and Processes Financial Assistance Program.

Research Questions

Based on the purpose of the study and the information from the literature review, research question arise. The following questions are the focus of the study:

1. How important is financial assistance for the agribusinesses interested in developing and introducing innovative or value-added agricultural product or process?
2. How does VAAPFAP affect economic development of the State of Iowa?
3. How effective is VAAPFAP for the agribusinesses, which have participated in this program?
4. What are the possibilities of VAAPFAP to be used as a model in the other states?
5. What are the VAAPFAP opportunities for the future?

The interrelationship research questions and survey questions are shown in Table 4.1.

Sources of Data

This section provides insights on the sources of data used in the study: participants included, methods of selection, and the method of data gathering.

Participants Inclusion and Selection

The data were collected from: (1) the Iowa Department of Economic Development (IDED); and (2) agribusinesses, which have participated in VAAPFAP. Potential survey participants were chosen through information and assistance from the IDED. A questionnaire was distributed only to the agribusinesses, which have participated in VAAPFAP from the beginning of this program activities in FY1994 until FY1997.

Table 4.1. Interrelationship Research Questions and Survey Questions

Research Questions	Survey Questions Related to Research Questions
1.	<ul style="list-style-type: none"> • Would you introduce your innovative or value-added product (process) without the VAAPFAP funds?
2.	<ul style="list-style-type: none"> • How important is this project for the development of economic activity in your community? • What is the most important benefits from your project implementation? • What percentage of your project budget were the VAAPFAP funds? • What is the number of employees created by project? • What is the percentage of total revenue that resulted from this project implementation?
3.	<ul style="list-style-type: none"> • How did you learn about VAAPFAP? • How would you evaluate usefulness of the VAAPFAP funds for your company? • Would you introduce your innovative or value-added product (process) without the VAAPFAP funds? • What percentage of your project budget were the VAAPFAP funds?
4.	<ul style="list-style-type: none"> • How would you evaluate usefulness of the VAAPFAP funds for your company? • What do you think should be done to increase the effectiveness of VAAPFAP? • What is the most important benefits from your project implementation?
5.	<ul style="list-style-type: none"> • What do you think should be done to increase the effectiveness of VAAPFAP?

By using this group of agribusinesses, a more detailed examination of the effectiveness of the VAAPFAP funds was carried out.

Data Gathering

Based on the literature review and input from the sources listed below, a survey was created (See Appendix B for the Survey Questionnaire used). The development of the survey from its inception until it was mailed to the participants was as follows:

- Step 1 - Conducted a literature review at the Iowa State University Library for information concerning value-added agriculture and importance of financial support for innovative companies.
- Step 2 - Visited with Dr. Max S. Wortman, College Business, Iowa State University, and Mr. Joseph H. Jones, VAAPFAP Program Coordinator, IDED, for input concerning survey topics and methodology.
- Step 3 - Created survey in a rough draft form and discussed it with Dr. Max S. Wortman and Mr. Joseph H. Jones for an evaluation of its appearance, content, technical information, and ease of completion.
- Step 4 - Created a survey in a final form. The survey questions were designed specifically to answer the research questions of this study.
- Step 5 - Mr. Joseph H. Jones, wrote a personal letter to all of the survey participants asking for their cooperation in completing the survey (See Appendix C for the copy of this letter).
- Step 6 - The survey was mailed to the potential respondents along with a cover letter. A total of 34 surveys was mailed to the agribusinesses which have

participated in VAAPFAP during FY1994-96. The time frame allowed for the return of the surveys was four weeks.

Analysis

The survey responses were segregated into the following areas for ease of comparison:

1. *Sources of knowledge about the Value-Added Agricultural Products and Processes Financial Assistance Program.* The sources of knowledge about the VAAPFAP funds include State and local economic development organizations, media, agricultural organizations, and others.
2. *General company's background information.* This background information includes: number of the company's employees, percentage of the VAAPFAP funds from the project budget, number of employees created by project, total company's revenue and percentage of revenue that resulted from project implementation.
3. *The usefulness of the VAAPFAP funds for the company.* All survey participants were asked to evaluate the usefulness and importance of the VAAPFAP funds for their business activity in the area of value-added agriculture.
4. *The role and importance of the value-added and innovative agricultural projects for development of economic activity in the communities.* All survey participants were asked to evaluate the importance of their value-added and innovative projects for development of economic activity in their communities, and to list the most important benefits from the projects' implementation.

For a contrasting perspective, the survey participants were formed in groups (e.g. size, type of business creation) and compared with each other through the use of tables and graphs.

The tables and graphs use the same information given in the surveys and permit the reader to compare and contrast among the agribusinesses participated in this survey. Based on the information taken from the survey and presented in Chapter 5, conclusions are drawn.

Delimitations of the Study

Due to the nature of the study, certain delimitations were expected before the study was initiated. First, VAAPFAP has had a short duration since inception. This limited time frame has been insufficient to expose the objectives and results to all of the variables and risks that will eventually come with the passage of time. Second, many of the enterprises that partake in the benefits of VAAPFAP have short time horizons. Their success or lack of success has not yet had the opportunity to be fully expressed. Third, the number of enterprises is relatively small. Fourth, there is no formal monitoring system established by the Iowa Department of Economic Development to collect data from the beneficiaries of the VAAPFAP products. The voluntary nature of reporting may skew the statistical data thus collected.

Summary

This chapter details the methodology used in the study. Definitions for value-added agriculture, value-added agricultural products, innovative products, loan, forgivable loan, grant, VAAPFAP, IDED. Five research questions that are the focus of the study are also presented and discussed.

The data gathering and sample selection are detailed. Thirty four agribusinesses which have participated in the VAAPFAP during FY1994-96 were chosen for participation in the study. Gathering the data was completed through the use of survey in April, 1998.

Based on the research questions, the data are presented in a comparative and contrasting format. Complementing this are tables for a cross-sectional view of several areas. Finally, some expected limitations are addressed.

CHAPTER 5

RESEARCH FINDINGS

This chapter reports the findings of the data obtained from the Iowa Department of Economic Development (IDED) and the agribusiness companies, which participated in the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) from FY 1995-1997.

The first section of Chapter 5 covers the IDED records which were used to provide an overview of VAAPFAP and a summary of the program awards. The second section is a comparative, cross-sectional analysis through the use of tables and graphs which examines the research questions based on the survey data.

Data and Results

Data used to conduct the analysis were compiled from the IDED records and from the VAAPFAP participants via a mail questionnaire. A survey for 34 Iowa agribusinesses that participated in VAAPFAP in FY 1995-1996 was developed and sent in March, 1998. The actual number of funded projects in FY 1995-1996 was thirty eight. However, two companies received awards for their projects twice during this period. Therefore, only one survey was sent to those companies (MBS and Bravo Cardiovascular which changed its name to Inno-Valve IVT in 1996). The other two companies were awarded but one of them, moved its business to another state instead of Iowa, and the other has not moved its business to Iowa yet. Twenty-six surveys were returned during the following four weeks after the initial mailing. After that a follow up letter was sent to non-respondents. In conjunction with the second

mailing , non-respondents were called with a telephone reminder. As a result, two other companies responded to a survey. Total number of returned surveys with usable responses was twenty-eight with a usable response rate of 82.4 percent.

All companies in the survey were asked for general background information about their firms such as total company's revenue and total number of employees. The survey respondents then were grouped into three size categories. Agribusinesses with less than 10 employees and with total revenue less than \$500,000 were classified as small. Firms with more than 100 employees and total revenue more than a million were classified as large. Agribusinesses not meeting the large or small criteria were classified as medium. The results are shown in the Table 5.1.

Table 5.1. Firm Average Revenue and Number of Employees By Category of Companies

	Small Firms	Medium Sized Firms	Large Sized Firms
Number of Companies	10	13	5
Firm Average Revenue, \$	172,500	1,057,690	1,250,000
Average Number of Employees per Company	5	12	151

The companies participating in the survey were asked to describe their business project as a new business or as an expansion of existing business. The results of the responses are shown in the Table 5.2. Fifteen agribusinesses responded that they created a new business through their innovative projects. Thirteen companies expanded already existing business.

Table 5.2. The Survey Respondents by Company's Size and Description of Business

	Small Firms	Medium Sized Firms	Large Sized Firms	Total
New business	7	6	2	15
Expansion of existing business	3	7	3	13
Total	10	13	5	28

Overview of the Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP)

VAAPFAP, authorized by the 75th Iowa General Assembly in April, 1994, provided over 14.5 million dollars to value-added agricultural businesses in the State of Iowa (see Table 5.3, Figure 5.1) in form of grants, loans, and forgivable loans.

The major sources of funds are loans. Table 5.3 indicates that VAAPFAP provided over seven million dollars of loans to the Iowa's agribusinesses during FY 1995-97 or 50 percent of the total funds, and 4.6 million dollars or more than 30 percent of forgivable loans. During this period, the total amount of grants was 20 percent of the funds or about three million dollars.

Table 5.3. The Sources of the VAAPFAP Funds by FY 1995-1997, in Millions of Dollars

Year	Grant	Loan	Forgivable Loan	Total
1995	2.18	2.14	0.08	4.39
1996	0.41	1.74	1.70	3.86
1997	0.34	3.20	2.82	6.36
Total	2.93	7.08	4.60	14.61

During the first year of operations, the funds were almost equally divided between grants and loans, and less than two percent of the funds were forgivable loans (see Figure 5.1). In later years, grants were replaced by forgivable loans. These loans obtained under the federally-funded Community Development Block Grant system do not have to be repaid if certain conditions are met.

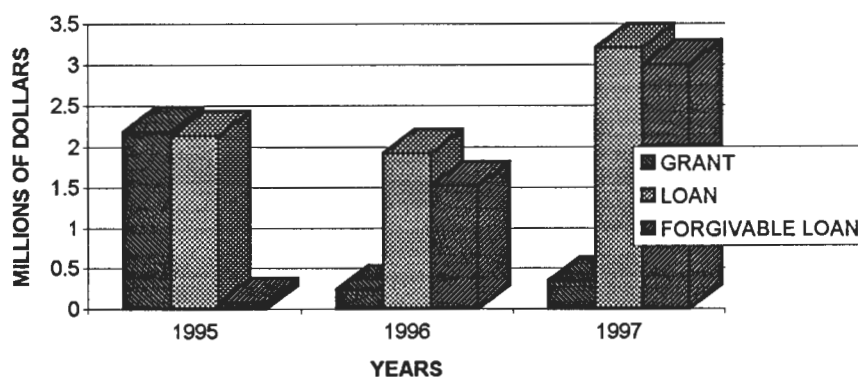


Figure 5.1. The VAAPFAP Funds by Sources and Years, in Millions of Dollars

For example, in the case of one VAAPFAP funded project, West Liberty Food, Inc., the cooperative has to maintain an employment level of 425 jobs, as a condition for loans which are not to be repaid. As a result of this policy, the amount of forgivable loans has been increased to almost three million dollars in FY 1997, while funds in form of grants were less than a half of a million dollars in the same year. Therefore, through this system of forgivable loans, IDED has better control over funds provided by VAAPFAP.

Available funds are allocated among the following components of the program: (1) Innovative Agricultural Products and Processes, (2) Renewable Fuel, and (3) Project Creation, a new part of VAAPFAP which was launched in FY 1997.

Application Approval and Funding the VAAPFAP Projects

Through FY 1997, one hundred and fourteen applications were reviewed and sixty-eight of them were funded by VAAPFAP. An application procedures have been discussed in Chapter 3.

In the survey the participants were asked a question: *How difficult was the procedure of your application approval?* The results of the survey responses are shown in Figure 5.2.

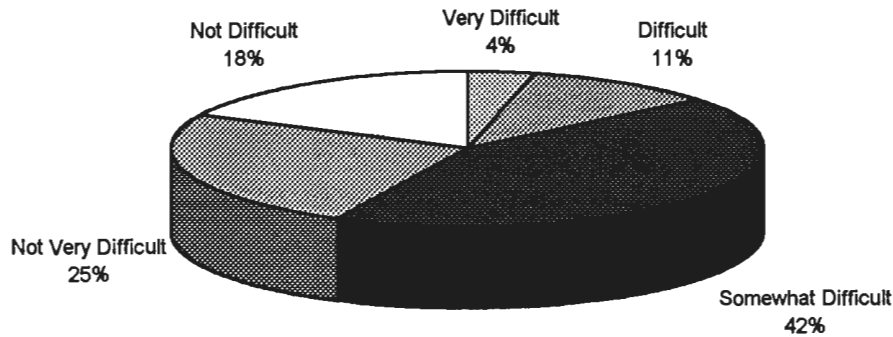


Figure 5.2. Level of Difficulty of the Application Approval Procedure, in Percent

For the majority of the respondents the application procedure approval was *somewhat difficult* (42%), *not difficult* (25%), and *not very difficult* (18%) respectively. Only 4 percent of respondents indicated that the application procedure approval was *very difficult*, and 11 percent of them noted that it was *difficult*.

In FY 1995, from a possible thirty-four applicants, eighteen had been funded by VAAPFAP. The awards totaled about 4.5 million dollars this year (see Figure 5.3 and Table

5.3). As the VAAPFAP report to the Iowa General Assembly indicated, \$3,775,000 went to businesses located in communities of 10,000 populations or less. Forty percent went to renewable fuel facilities and sixty percent went to companies providing new value-added products and processes¹.

During FY 1996, fifty percent of applications had been funded by VAAPFAP with total awards of approximately 4.0 million dollars. Through FY 1997, thirty-nine applications were reviewed and thirty or almost 77 percent of them were funded. In this year, VAAPFAP committed over \$6.0 million to a wide range of projects. As shown in Figure 5.3, the number of awarded projects increased each year during FY 1995-1997, while average amount of award per project decreased in FY 1996 and FY 1997 comparing to FY 1995 (see Figure 5.4). The amount of awards varies widely with the highest of \$900,000 and the smallest of \$20,000.

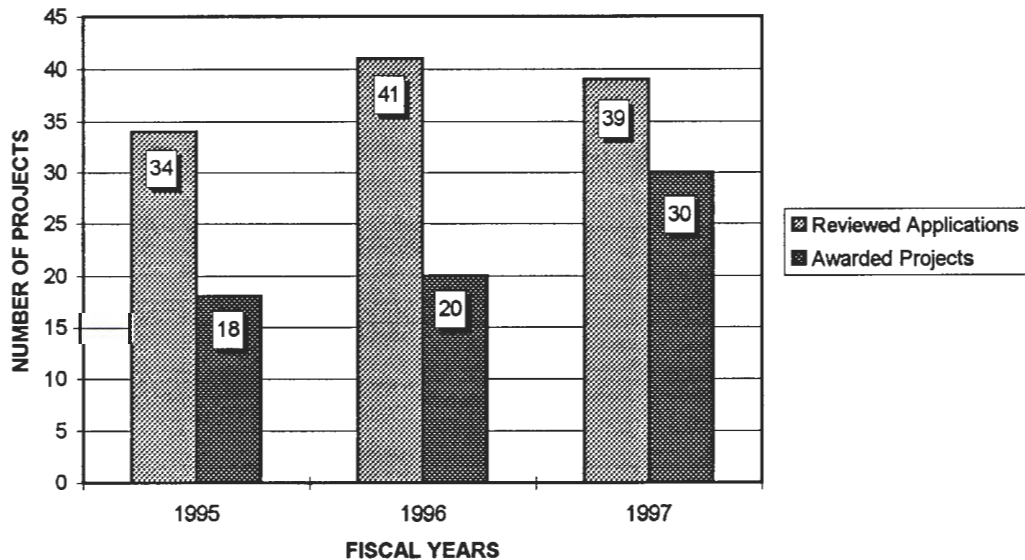


Figure 5.3. Number of Projects Reviewed and Funded by VAAPFAP, FY 1995-1997

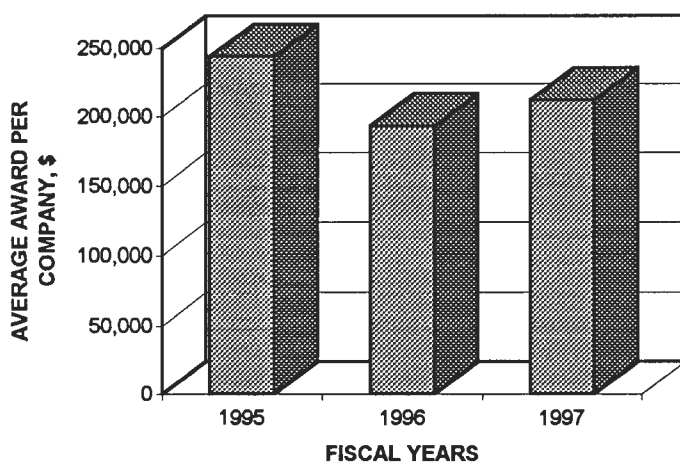


Figure 5.4. Average the VAAPFAP Award per Company, FY 1995-1997

Overview of the Funded Projects

All awarded projects can be aggregated into seven commodity classifications: Ethanol, Value Added Corn, Value Added Soybeans, Value Added Pork, Value Added Beef, Value Added Poultry, and Other Value Added Products and Processes. Funds allocation among these groups is shown in Figure 5.5, 5.6.

During FY 1995-1997, the Ethanol category received 26 percent of the total VAAPFAP funds. The second largest VAAPFAP fund recipients were Value Added Soybeans Products, accounting for 21 percent of total VAAPFAP funds. Value Added Pork and Value Added Corn Products, ranked third and fourth, respectively, with 15 percent and 14 percent of VAAPFAP funds, have been channeled to these groups. Value Added Beef and Value Added Poultry Products received 11 percent and 8 percent, while Other Value Added Products and Processes received 5 percent of VAAPFAP funds during this period (see Figure 5.5).

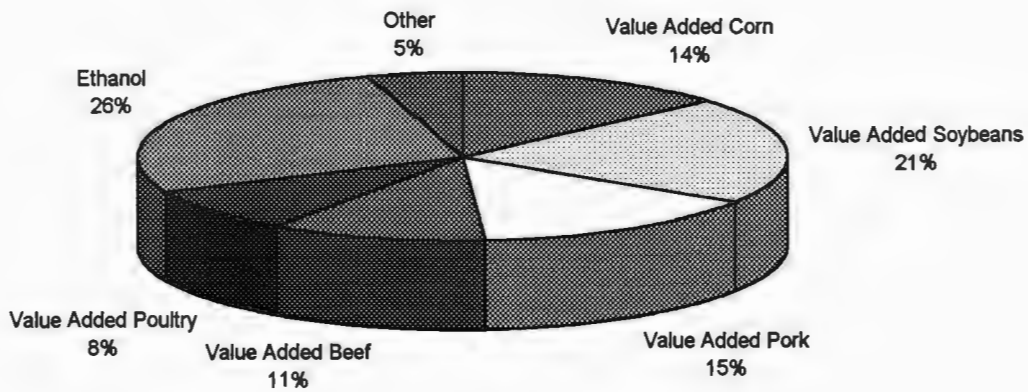


Figure 5.5. The VAAPFAP Funds Allocation among Commodity Category, FY 1995-1997, in Percent.

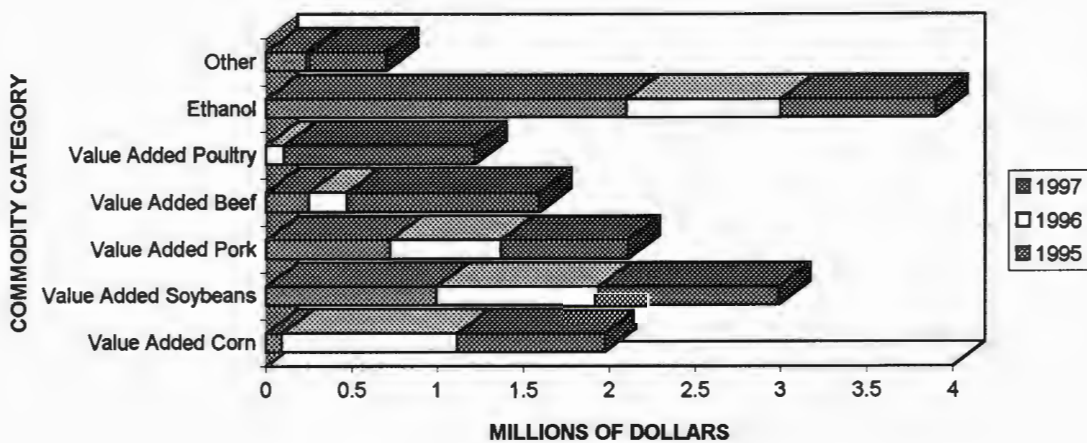


Figure 5.6. The VAAPFAP Budget by Commodity Category, FY 1995-1997

The VAAPFAP budget by commodity category through FY 1997 are shown in Figure 5.6. From 1995 to 1997, Value Added Beef, Value Added Poultry and Other Value Added Products and Processes categories have increased their share of total VAAPFAP funds significantly while agribusinesses in the Ethanol group have decreased their share of total VAAPFAP expenditures.

The Ethanol Projects Ethanol, already using almost 4 percent of U.S. corn acreage, is the clear leader in creating new demand for corn². Feeding the ethanol industry's demand for corn and production for fuel itself is one of the largest economic activities in Iowa. Iowa is the number-one corn-producing state and has the second largest ethanol producing capacity at 280 million gallons. Through FY 1997, VAAPFAP funded six ethanol projects with a total funding of \$3.9 million or 26 percent as shown in Figure 5.5.

Among ethanol projects, which have been funded by the program, five are large in size (\$15 - \$30 million) and have received most of the funds (\$3.8 million). Sunrise Energy Cooperative in Blairstown, Iowa is one of them. This enterprise has been awarded \$900,000 in form of loans (\$720,000) and grants (\$180,000) to build a 7.5 million gallons per year ethanol plant in conjunction with a cattle feedlot to use the corn gluten co-products of the ethanol processes. The overall project totaled 15 million dollars.

Applied Agriculture Technologies Inc. is an example of one of the relatively small startup companies which was awarded \$100,000 grant by the VAAPFAP to develop a small-scale corn ethanol plant for use in association with cattle feed lots of 50 to 500 head. The goal of this project is to demonstrate a design for an ethanol/gluten feed producing plant that can be matched in size to the number of cattle to be fed from the products of the plant.

VAAPFAP reported that when all plants in operation they will utilize 50 to 60 million bushels of corn per year and provide feed for approximately 160,000 head of cattle³.

Value Added Soybeans Projects As one of the major U.S. crops, soybeans have enjoyed the advantages of years of private and public research programs. The soybean today comes as close as any crop to fully utilizing all of the raw materials into usable products. Farmers throughout the country are thoroughly familiar with raising soybeans, and future improvements in yields are expected to be gradual rather than dramatic⁴.

Through FY 1997, VAAPFAP approved funds for ten value added soybean projects. These projects ranked second in total VAAPFAP awards (see Figure 5.5) and represent a wide range of businesses producing products from soybeans, such as industrial cleaners, methyl ester, soybean oil hydraulic fluid, and soy food snacks.

One of the largest projects (\$5 million) in the category of Value Added Soybeans has been awarded \$300,000 loan and \$200,000 forgivable loan. This award was provided to Ag Processing Inc., located in Sergeant Bluff, Iowa to cover costs associated with expansion and environmental compliance improvements of a soybean processing facility.

Another company, which has been awarded by VAAPFAP, is Natural Products, Inc.. It has received a \$137,500 loan and a \$137,500 grant to purchase a soybean dry-milling plant in Minnesota and move it to the Grinnell, Iowa area. The company is producing flour from soybeans through a dry roasting process that does not involve the use of chemical solvents, allowing them to market a "natural" soy product for health food stores and the baking industry. The process will increase demand for identity- preserved soybean varieties, including organically grown soybeans for this fast growing market.

Among other examples are Interwest, Inc., Homestead Farms, Inc., and Lee Seed Co.. Interwest, Inc., Ralston, Iowa, has been awarded a \$100,000 grant from VAAPFAP supporting an overall project of \$700,000 to build and equip a plant to process soybeans into methyl ester and glycerol. Homestead Farms, Inc., Des Moines, has been awarded \$125,000 in form of 50% loan and 50% grant to bottle soybean oil for retail and institutional markets. A \$50,000 forgivable loan was provided to Lee Seed Co., Inwood, Iowa to purchase equipment to process Iowa soybeans into snack foods.

Value Added Corn Projects Today's challenge to U.S. corn farmers is to create new markets capable of putting the Nation's idle corn acreage back into production. New industrial markets for corn offer tremendous opportunities.

VAAPFAP has committed 14 percent of its funds to Value Added Corn Products for eight projects during FY 1995-1997. One of the awarded companies is MBS Composition Systems in Story City, Iowa. Through VAAPFAP, MBS Composition Systems have obtained three awards. Its first project received a \$187,500 funds in form of a grant in FY 1995 to provide service to grain elevators for testing of specialty grains such as high oil corn. The second award was a \$137,500 forgivable loan to assist 15 Iowa grain elevators in purchasing near-infrared sensing instruments to be used for testing grain for protein, oil, starches, etc. As a result of the funding, 15 facilities were able to install and utilize grain analyzers. Based on survey information from 11 of these 15 facilities, company reported that Iowa producers were provided with over \$200,000 of additional revenue in just the first five months of operation of these units.

VAAPFAP invested more than \$300,000 in MBS Composition Systems during FY 1995-1996. According to MBS Composition Systems comments, these two awards represents a 75.6% rate of return on the State's investment. (Assuming that 10 percent of the revenues generated by these two awards are paid to the State in some form of taxation)⁵.

In summary, the Iowa grain analyzers are operating successfully. The assistance of the State of Iowa, through the VAAPFAP grant and loan, has given the elevators the capability to identify and segregate higher-value grain. Premiums are being paid to Iowa farmers, rewarding them for growing higher-value crops. Therefore, the third MBS Composition Systems project has been awarded by VAAPFAP in June, 1997. A \$200,000 award in the form of forgivable loan has been provided to cost share purchase and installation of 16 near-infrared grain quality measuring instruments to be placed at grain elevators throughout the state.

Minsa Corp., Red Oak, Iowa, has received a \$225,000 award from VAAPFAP in the form of a \$90,000 loan and a \$135,000 forgivable loan for an overall \$4 million project to remodel and expand a vacant corn milling facility to produce white corn tortilla flour for the growing Mexican food market.

The other examples of Value Added Corn projects funded by VAAPFAP are: production litter for small animals and birds from corn cobs in Green Mountain, Iowa (Green Products); and a corn stover processing plant in Harlan, Iowa (Great Lakes Chemical Corp.).

Value Added Pork Projects The traditional form of value-added agriculture, namely the production of quality animals and animal products, has major implications for the State of Iowa. During FY 1995-1997, Value Added Pork projects received over two million dollars from VAAPFAP. Sixteen Iowa companies were approved for program funds in this

commodity category. One of the largest awards was received by Bee-Lor, Inc., Oskaloosa. The company was awarded \$500,000 to market a tofu/pork bratwurst, an innovative consumer food, that was developed in cooperation with Iowa State University. This Project uses Iowa soybeans and Iowa pork to make a good tasting low-fat bratwurst sausage. The project involved a 60 percent loan and 40 percent grant, with 60 percent funded at project commencement and the remainder as the company reaches certain sales goals.

The other large award (\$370,000) was given to AMPC, Inc. in the form of a \$111,000 loan and a \$259,000 grant to refurbish a production facility in Harlan, Iowa at an overall cost of \$2.5 million. The facility is to process pork tissue from local meat packers. The material was formerly used only for pet foods or as waste products. Now the AMPC process converts pork tissue for new use in higher value food ingredients. As a result of this project, 65 jobs will be added in the Harlan area.

Among relatively small \$40-50,000 awards are those granted to Glenn Freie Natural Meats of Latimer and Chemtec of Iowa of Des Moines. A \$40,000 forgivable loan was approved to Glenn Freie Natural Meats of Latimer to produce, process and market natural pork as fresh meat and as a cooked product in old-fashioned jars. All products are chemical free. Chemtec of Iowa received a \$50,000 forgivable loan in FY 1996 to produce and sell an odor control product to be used primarily in the pork industry. This product was tested at Iowa State University and found to control approximately 85 percent of odors from confinement waste lagoons.

Value Added Beef Projects Through VAAPFAP, the State of Iowa invested over \$1.5 million into eleven Value Added Beef projects during FY 1995-1997. The share of the

VAAPFAP funds for these projects increased significantly during this period. In FY 1995-1996, the program invested \$250,000 and \$220,000 respectively to the Value Added Beef projects, while in FY 1997, the share of the VAAPFAP funds to this category of projects increased to over a million dollars. The reason for this increase is that Mid-Ag in Red Oak received \$700,000 from VAAPFAP in 1997. Mid Ag's funding included \$500,000 as a loan and \$200,000 as a forgivable loan. The Red Oak based company was awarded the VAAPFAP investment to plan, market and construct a new, state-of-the-art beef processing facility in southwest Iowa. It was the second awarded project for Mid Ag through the VAAPFAP. The company's first project received a \$100,000 grant from the VAAPFAP in 1995 to be used to develop a genetics and feeding program for Hereford cattle, and a marketing initiative for premium branded beef cuts. This project provides a unique level of quality assurance by controlling its product from pasture to the plate.

The similar project was introduced by Precision Beef Alliance, Oakland. The company received a \$25,000 loan and a \$25,000 grant to establish a controlled genetics program for beef cattle which will assist local producers to raise consistently higher quality beef. Another interesting project was awarded a \$50,000 forgivable loan to Sioux Biochemical in Sioux Center. This project provides proteins isolated from animal tissues for use in bio-tech research.

Value Added Poultry Projects Through FY 1997, VAAPFAP committed over a million dollars to the Value Added Poultry projects. The largest financial support was provided to the Iowa Turkey Growers Cooperative (ITGC), a cooperative of more than 45 turkey growers from north central and eastern Iowa, which raises more than one half of the eight million turkey grown in the state. It is one of the first cooperatives to operate as a "closed

cooperative” under a new Iowa law that permits farmers to form cooperatives that can participate in the processing and marketing of value-added products. Part of the VAAPFAP money for this project is a loan (\$700,000) and part is a grant (\$200,000). The funds were used to purchase the Louis Rich turkey processing facility in West Liberty. As a result, the project supports 425 jobs in the West Liberty area and continues maintaining operations in a facility that is critical to an important industry within the state.

A \$100,000 forgivable loan was invested in Kalona Foods, L.L.C., Kalona, to support a total budget of \$375,000 to start a new egg processing facility for eggs to be marketed as “drag and medication free.”

Other Value Added Projects The group of Other Value Added projects was provided over a half of million dollars from VAAPFAP funds during FY 1995-1997. These projects are in the area of oat processing, ostrich processing, estrogen production, sheep insemination, and others.

In FY 1995, VAAPFAP provided about a \$100,000 in the form of 50 percent loan and 50 percent grant for a project developed by Power Plant Aggregates, Sioux City, with Iowa State University to mix alkaline waste products from coal-burning power plants with hog manure to limit odor while increasing the fertilizer value of the manure.

In FY 1996, VAAPFAP provided a \$54,700 forgivable loan to Fluegge & Terpstra, Albia to organize and launch an ostrich meat production and processing operation in southern Iowa; and a \$50,000 forgivable loan to the Butcher Shop, Audubon for expansion of a processing facility to slaughter and process emus and ostriches.

In FY 1997, a partnership named Family Tree Furniture, Albia, was approved for a \$50,000 forgivable loan to be used for a building addition and equipment for manufacture of specialty products made from local hardwoods.

Summary: Iowa legislators launched VAAPFAP in 1994 to help diversify Iowa's economy and promote new markets for Iowa farmers. During the 1995-1997 VAAPFAP operation, the IDED has provided financial assistance to sixty eight projects totaling \$14.6 million for further processing of agricultural commodities and revitalizing rural areas.

Examination of the Research Questions

Based on the literature review and data collected from the survey, the following research questions are examined in this section.

1. *How important is financial assistance for agribusinesses interested in developing and introducing innovative and value-added agricultural products or processes?*

A literature review has shown that finance is one of the main obstacles for innovative companies. There are several underlying factors behind this problem:

- Rising costs of research and development, combined with decreasing rates of return on these investments and shorter life cycles of new products;
- Reliance on non-material investments, such as human resources, organization skills, networking;
- Resolution of conflict between investor who requires optimal returns on investment and innovator who wishes to generate returns from innovation;
- Diminishing of risk capital in the downturn of the economic cycle;

- Constraining budgets of governments allowing compensation for reduced private sector investments through traditional grant systems⁶.

Often the entrepreneur cannot provide the large share of internal capital relative to the amount needed before the first returns are generated. In this case, public funding could be an important source of finance.

Agribusinesses, which participated in the VAAPFAP survey and received financial support from this program in FY 1995-1996, were asked the question: “*Would you introduce your innovative or value-added product (process) without the VAAPFAP funds?*”

Results: Almost one third or 32 percent of the companies responded negatively to this question because they would not have introduced their innovative or value-added product or process without the financial support from the state of Iowa through VAAPFAP. More than 39 percent of the companies were not sure they would introduce their innovative or value-added product or process without the financial support from VAAPFAP, and only about 29 percent of agribusinesses were sure that they would introduce their innovative or value-added product or process without the financial support from the state of Iowa through VAAPFAP (see Figure 5.7).

As shown in Figure 5.8, sixty percent of small companies would not introduce their innovative or value-added products or processes without the financial support from VAAPFAP, while only 23 percent of medium-size companies and none of the large companies responded this question negatively. Thirty percent of small and medium-sized agribusinesses and 20 percent of large-sized agribusinesses would introduce their projects without the VAAPFAP investments. The majority of large companies (80%) and almost half of medium-

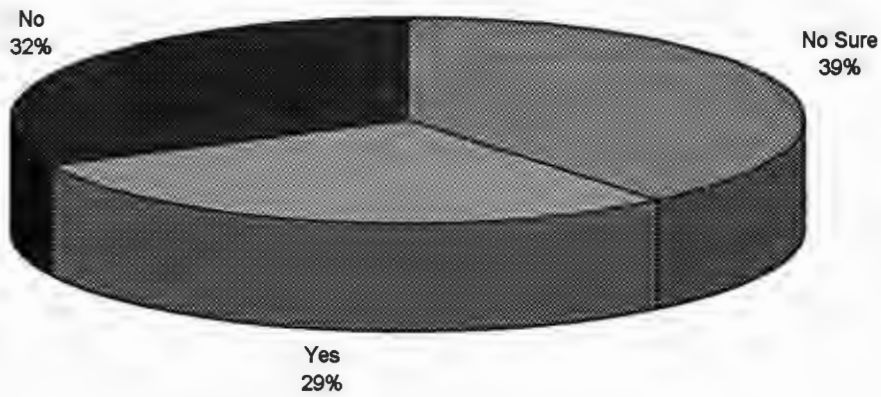


Figure 5.7. The Importance of VAAPFAP Funds to the Companies Introducing Innovative Products or Processes, in Percent

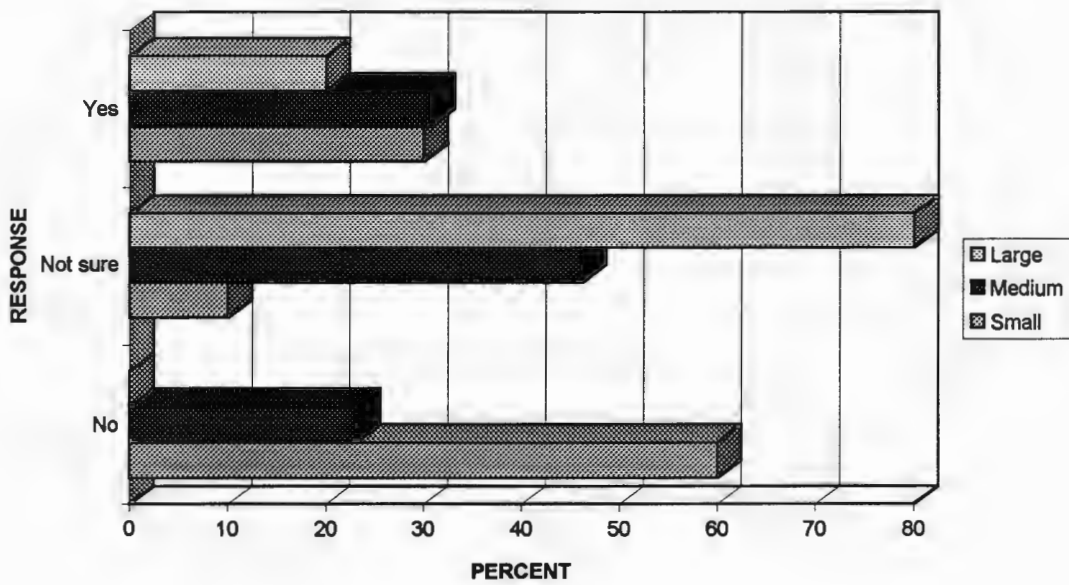


Figure 5.8. The Importance of VAAPFAP Funds to the Small, Medium, and Large Companies, in Percent

sized companies (46%) were not sure if they could have introduced their projects without the VAAPFAP investments.

Firms were also grouped as a *new business* or *expansion of existing business*.

Results: Forty percent of the new businesses and only twenty-three percent of the companies with expansion of existing business would not have introduced their projects without VAAPFAP. One-third of the companies with expansion of existing business and 27 percent of the new businesses responded *Yes* on this question. Almost one-half (46%) of the companies with expansion of existing business and one-third of the new businesses fell into the *Not sure* category (see Figure 5.9).

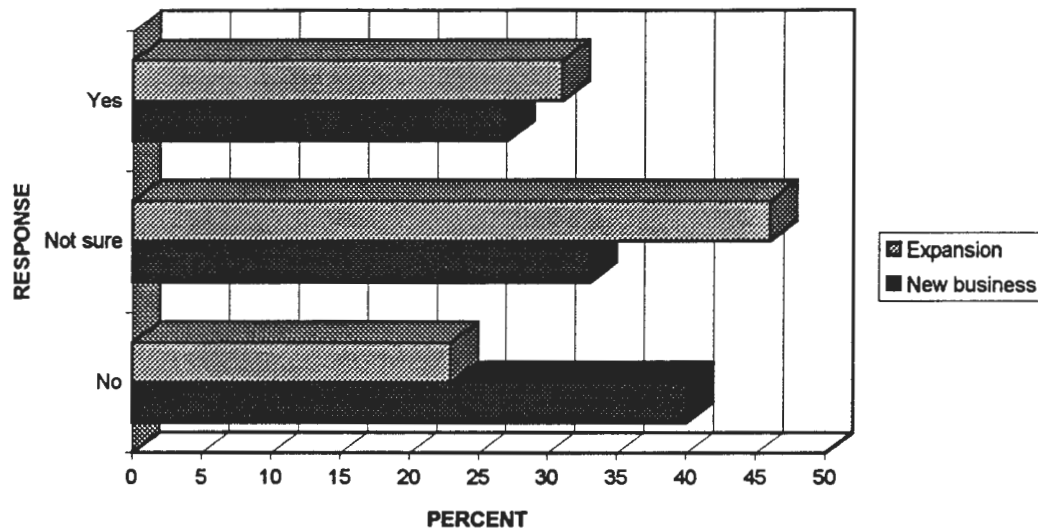


Figure 5.9. The Importance of VAAPFAP Funds to the New Business and Firm with Expansion of Existing Business, in Percent

Summary: Small and medium-size agribusinesses need substantial external capital to finance their innovative and value-added agricultural projects. Often they cannot introduce their innovative and value-added products or processes without a financial support from public funding. It is especially true for new businesses. The younger the firm and the higher the technological and commercial risks, the more difficult it is to attract capital.

Therefore, financial assistance from the State of Iowa for agribusinesses interested in developing and introducing innovative or value-added agricultural products or processes is critical.

2. How does VAAPFAP affect economic development of the State of Iowa?

Transforming agricultural commodities into food and other products is an important manufacturing activity in the State of Iowa and has been for a long time. Many see it as a promising avenue for economic development and for increasing employment as well as for increasing prices received by farmers. A public opinion telesurvey, conducted by Meyocks & Priebe Advertising, Inc. in September, 1997, has shown Iowans clearly recognize that the agricultural industry is very important to the state's economy. A full 94 percent of the 423 survey respondents agreed⁷.

The purpose of the Value Added Agricultural Products and Processes Financial Assistance Program is to encourage the increased utilization of agricultural commodities produced in the State of Iowa. As indicated above, this program provided financial support for sixty-eight projects during FY 1995-1997 (with an investments over 14.6 million dollars into Iowa value-added agriculture). What are the results of the program operations?

Joseph Jones, the VAAPFAP coordinator, reported that FY 1995 funds were committed to businesses that could utilize up to 9,500,000 bushels of grain and 250,000,000 lb. of meat and poultry. FY 1996 funds were committed to businesses that could utilize up to 50,000,000 bushels of grain and 300,000,000 lb. of meat and poultry. And, fiscal 1997 funds were committed to businesses that could utilize up to 55,000,000 bushels of grain and 650,000,000 lb. of meat and poultry (see Figure 5.10). Joseph Jones also has reported that the VAAPFAP awarded projects have saved or created about 1,200 jobs in the state of Iowa⁸.

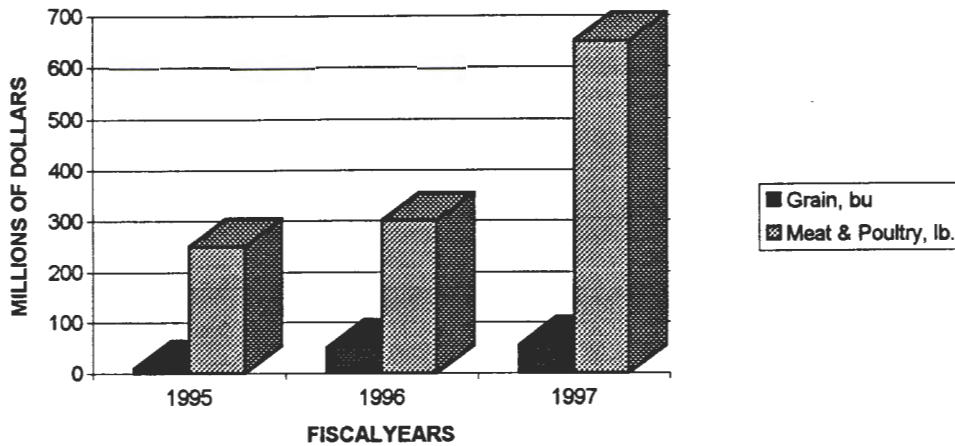


Figure 5.10. Product Utilization by the VAAPFAP Awarded Projects, FY 1995-1997

In the survey, the participants were asked a question: *How important is this project for the development of economic activity in your community?*

Results: The majority (88.6%) of the respondents have indicated that their projects are *important* (38.6%) and *very important* (50%) for development of economic activity in their communities. Only 7.2 percent of the companies have evaluated their projects as *somewhat*

important. The responses *Not very important* and *Not important* were given by only one respondent (3.8%) in each category (see Figure 5.11).

All small and the majority of medium and large-sized companies have considered their projects as *very important* and *important* for development of economic activity in their communities (see Figure 5.12).

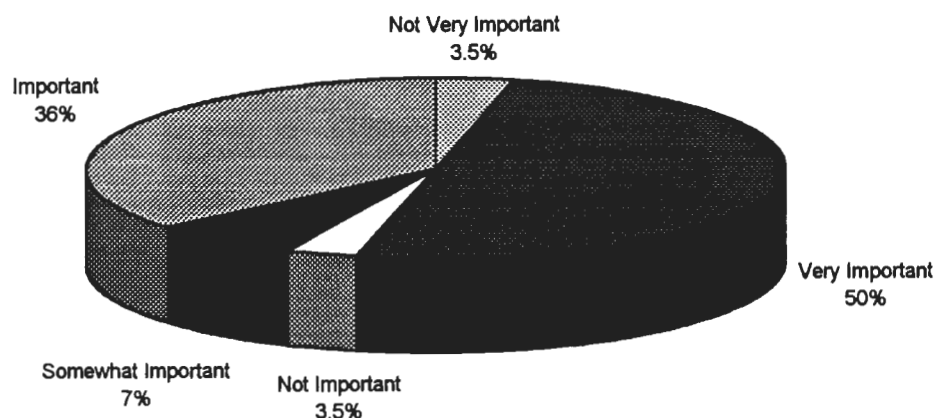


Figure 5.11. The Importance of Value-Added Agricultural Projects for the Economic Development of the Community, in Percent

To evaluate how VAAPFAP affects economic development of the State of Iowa, survey participants were also asked to list the most important benefits from their project for the State of Iowa. Benefits the respondents have emphasized are shown in the Table 5.4.

Value-Added agriculture has significant economic opportunities. As Iowa State University estimated, value-added agriculture, including livestock production, has the potential to increase rural income by 50 percent in just a few years⁹.

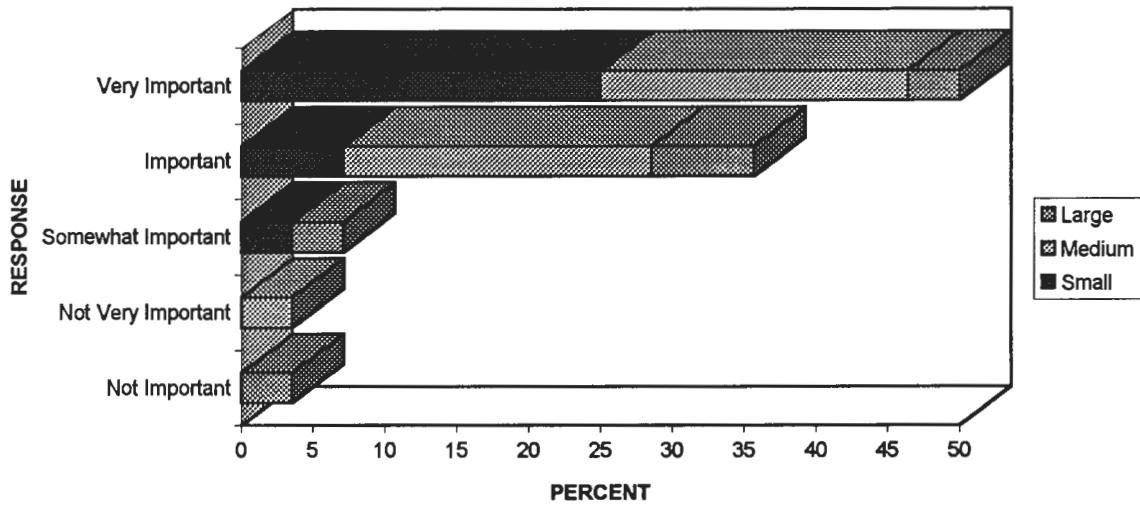


Figure 5.12. The Importance of Value-Added Agricultural Projects for the Economic Development of the Community by Company Size, in Percent

Table 5.4. Benefits for the State of Iowa by the Number of Survey Responses

Benefits for the State of Iowa	Number of responses
1. Job creation	10
2. Adding value to key commodities of Iowa economy	8
3. Raised public awareness of value-added agriculture	7
4. Increased stability of agribusinesses	7
5. Income potential for farmers and other agribusinesses	6
6. New markets for Iowa producers	2
7. Adding Iowa export	2
8. Development of new products and personal skills	2
9. New business development in value-added area	1
10. Differentiation from competitors	1
11. Improving the environment (reduction in water pollution from agricultural chemical fertilizer)	1
12. Medical use of value-added agricultural products	1

VAAPFAP encourages new business development in value-added area. As the survey has indicated, VAAPFAP supported fifteen new businesses and thirteen companies with expansion of existing business in the State of Iowa during FY 1995-1996. Clearly, this program has brought new business activities to rural and metropolitan areas.

Seven small agribusinesses have received financial assistance from the program in order to create new business. Three other small companies extended their business because of the VAAPFAP funds (see Figure 5.13).

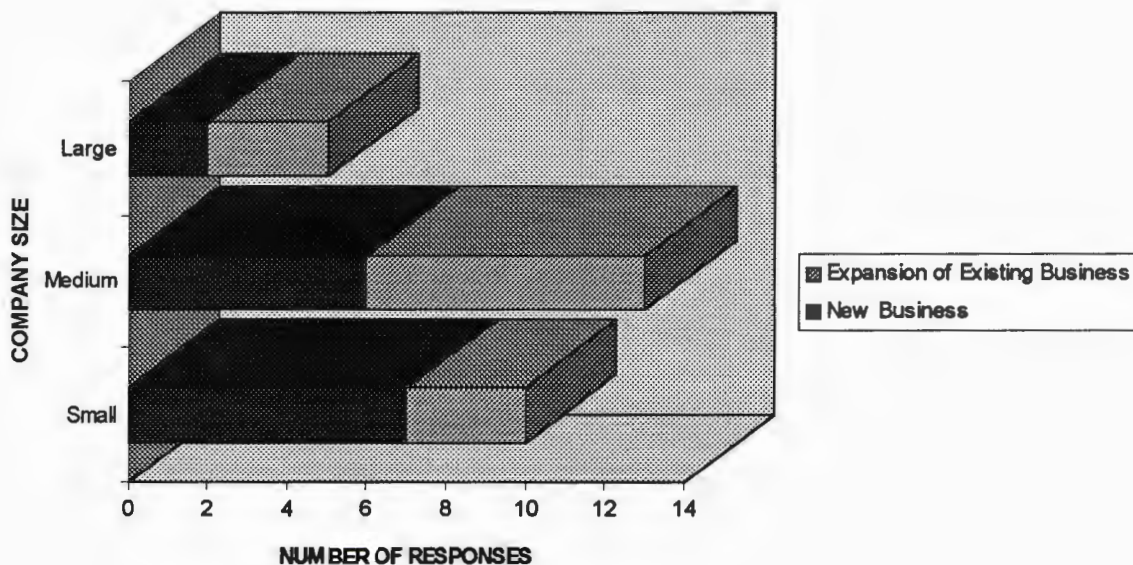


Figure 5.13. The Survey Respondents by Company Size and Business Creation

About 90 percent of the total revenue of a small company comes from the implementation of an innovative or value-added project. The average total revenue of a small company is \$172,500, revenue from project implementation for an average small company is approximately \$150,000 or 87 percent of total revenue. One half of the medium-sized

companies from the survey respondents were start-ups, the other half had expanded their business.

The average total revenue of a medium-size company is \$1,057,000, and an average revenue from innovative or value-added project implementation is \$400,500 or 38 percent of total revenue.

Among large-sized companies, three of them expanded their existing business using the VAAPFAP investments, and two firms started a new business with the program financial assistance. The data indicated that an average total revenue of a large firm is \$1,250,000. From this amount 14 percent or \$178,250 came from project implementation (see Figure 5.13, 5.14 and Table 5.1).

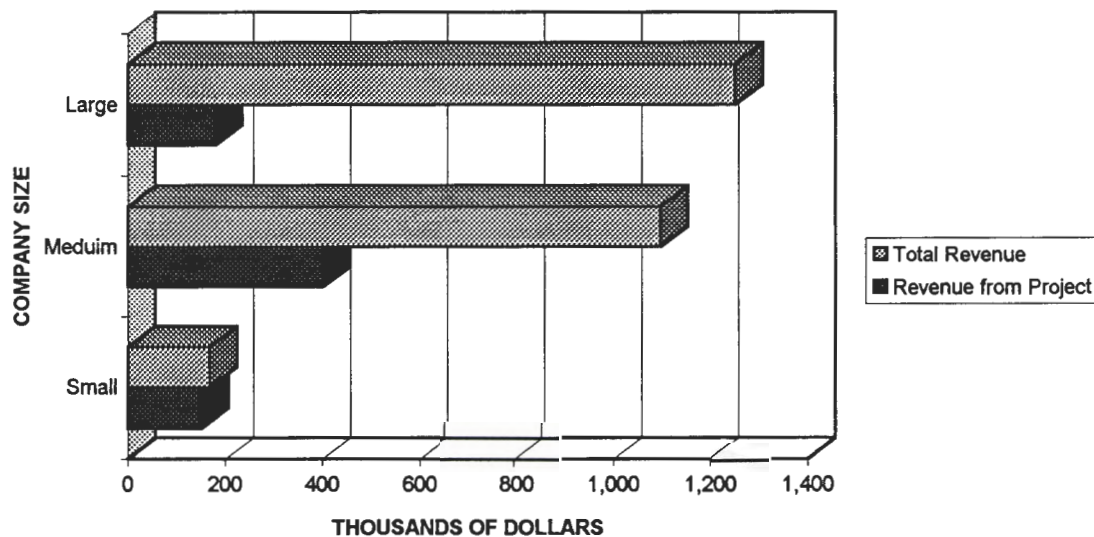


Figure 5.14. Average Total Revenue and Revenue from Project Implementation by the Company Size, in Thousands of Dollars

Average revenue from implementation of an innovative or value-added agricultural project is \$271,299 per company. Total estimated revenue from innovative and value-added agricultural projects of all companies (28) that participated in the survey is more than \$7.5 million.

As mentioned above, more than one half of those participating in the survey started a new business with VAAPFAP assistance. That means that those businesses have created new jobs in the State of Iowa. Most of the companies with expansion of existing business have created jobs as well (see Figure 5.15).

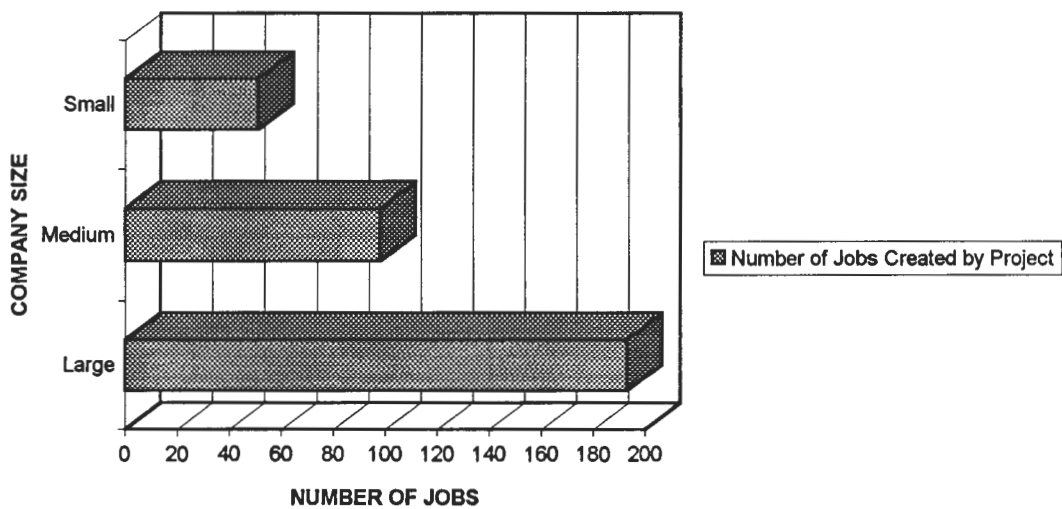


Figure 5.15. Total Job Creation by the Company Size

Small companies that participated in the survey created about 51 jobs in the State of Iowa. Medium-size businesses created 98 new jobs. Large companies reported that they have created employment for 193 people in total (see Figure 5.15). Altogether agribusinesses (28) created approximately 342 new jobs.

A good example of supporting community economic development is VAAPFAP financial assistance provided to the Iowa Turkey Growers Cooperative to purchase the Louis Rich turkey processing plant in West Liberty. The cooperative was attempting to keep the plant from closing and save the processing jobs in this area. VAAPFAP investments of \$900,000 helped the cooperative to save approximately 425 jobs for the community.

Another example of successful VAAPFAP activities is the financing of the MBS Composition System projects. Funds provided helped elevators in many communities purchase testing equipment for value-added crops. VAAPFAP grants and loans, have given the elevators the capability to identify and segregate higher-value grain. Premiums are being paid to Iowa farmers, rewarding them for growing higher-value crops.

Based on the company survey, information from 11 of these 15 elevators, Iowa producers were provided with over \$200,000 of additional revenue in just the first five months of operation of these testing units. As the company's report indicated, total value added to corn and soybeans through the use of grain analysis technology from August 1, 1995 through July 31, 1997 was \$2,528,266. The state of Iowa, through VAAPFAP, invested \$334,500. Assuming that 10% of the revenues generated by these awards are paid to the State in some form of taxation, which represents a 75.6% rate of return on the State's investment.

Another very important role of VAAPFAP is to promote a public awareness of value-added agriculture. A telesurvey has shown that Iowans do not know and cannot define what the term "value-added agriculture" is. A full 79 percent said plainly that they did not know how to define the term "value-added". Approximately two-third of those respondents who gave a definition were incorrect¹⁰.

To promote value-added agriculture opportunities, the VAAPFAP staff has developed a program brochure; held an informational conference via the Iowa Communications Network, and performed other activities, such as presentations and seminars, which has been very helpful in educating Iowans about the importance of value-added agriculture to their economic well-being and the state's prosperity.

Summary: Value-added activity continues to increase through the VAAPFAP operations and to benefit Iowa agriculture and the people of the state of Iowa. In evaluating the impact of VAAPFAP funded projects on the economic development of Iowa communities, one of the survey respondents pointed out that "this project is very important for our company even though some benefits are not realized. Our company is a "major employer" for the community. Whatever increases our company is of great value to the community".

3. *How effective is VAAPFAP for the agribusinesses which have participated in this program?*

The sources of information about VAAPFAP were grouped into five categories:

- Local Economic Development Organizations
- State Department of Economic Development
- Media
- Agricultural Organizations
- Other than Above

Survey respondents stated that 36 percent of them received information regarding VAAPFAP from the *Iowa Department of Economic Development*; 29 percent of respondents learned about VAAPFAP from *Local Economic Development Organizations*; and 14 percent

responded with *Agricultural Organizations*, as a source of information. *Media* has been a source of information about the program for 10.5 percent of the respondents, and 10.5 percent fell in the category *Other* (see Figure 5.16).

Comparison of small, medium, and large-sized agribusinesses has shown that 50 percent of small and 40 percent of large companies learned about the program from *Local Economic Development Organizations*, and almost half of medium-size firms indicated the *Iowa Department of Economic Development* as a main source of information (see Figure 5.17).

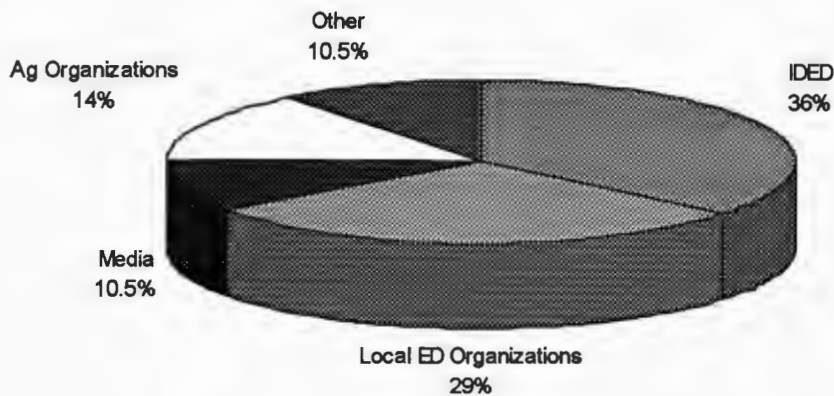


Figure 5.16. Knowledge about VAAPFAP by Source of Information, in Percent

The majority of the survey participants (89%) have evaluated usefulness of the VAAPFAP funds as *very useful*. Eleven percent and about four percent of the respondents have respectively considered the VAAPFAP funds as *important* and *somewhat useful*. No respondent fall into categories *not very useful* and *not useful* (see Figure 5.18).

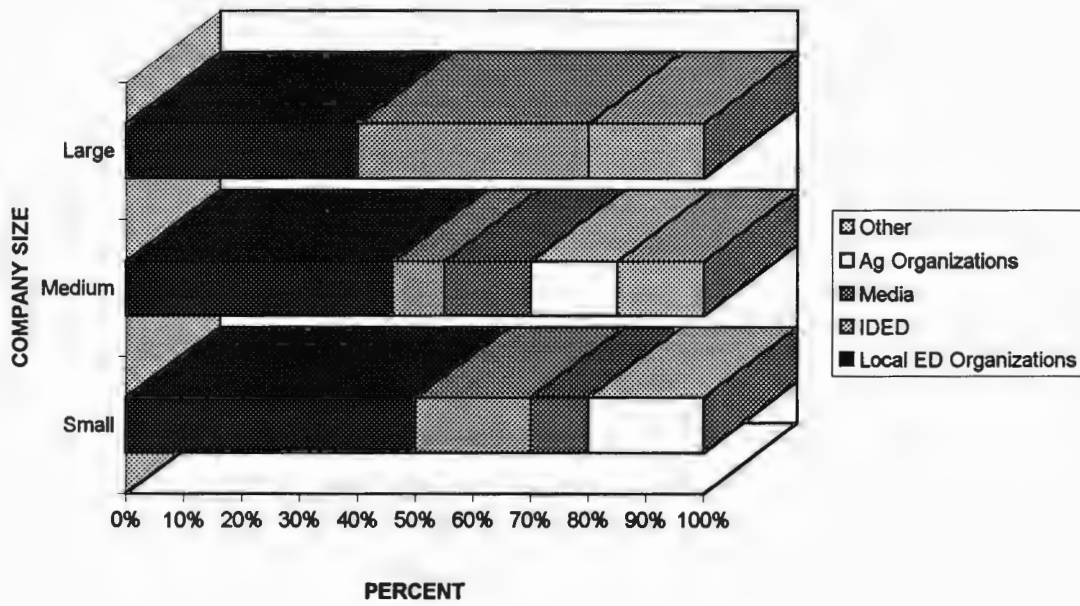


Figure 5.17. Sources of Information about VAAPFAP by Company Size, in Percent

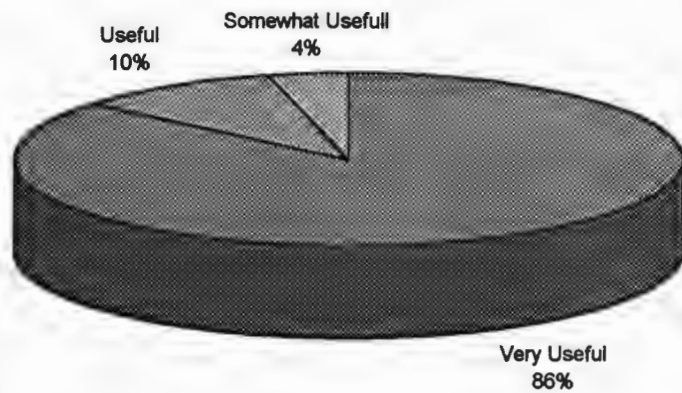


Figure 5.18. Evaluation of Usefulness of the VAAPFAP Funds, in Percent

Nine of the ten small agribusinesses have evaluated usefulness of the program as *very useful*, and only one of ten has considered the VAAPFAP investment as *useful*. Among medium-size companies the respondents have been divided between *very useful*, *useful*, and *somewhat useful* as 10/1/1 respectively. All large companies have ranked VAAPFAP as *very useful* and *useful* (see Figure 5.19).

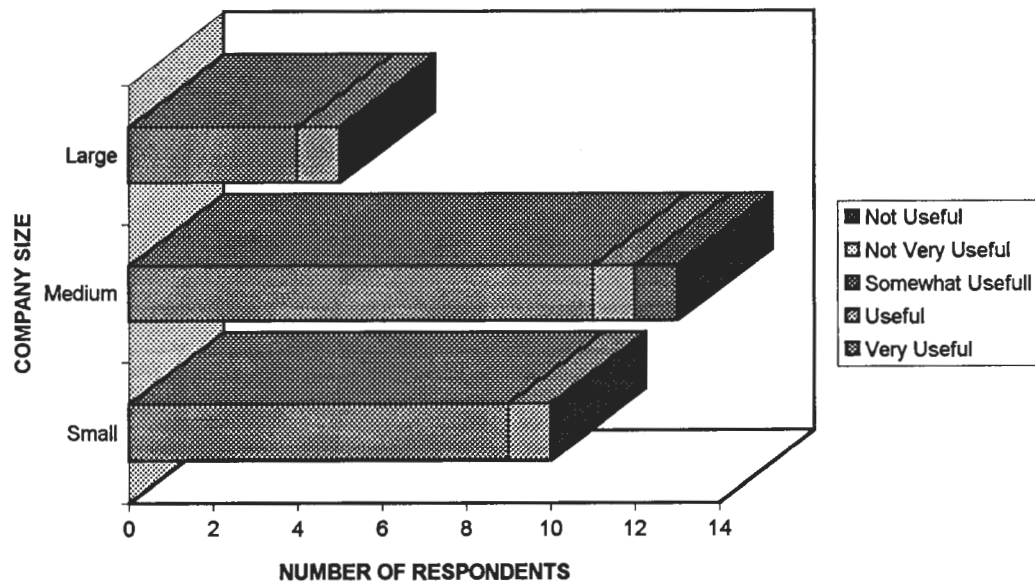


Figure 5.19. Evaluation of Usefulness of the VAAPFAP Funds by Number of the Respondents and Company Size

According to the data obtained from IDED, VAAPFAP invested over \$14.6 million into the value-added and innovative agricultural projects in the State of Iowa during FY 1995-1997. Total investments by the companies other than VAAPFAP funds were \$118 million. The VAAPFAP financial support was 12.4 percent.

In the survey the participants were asked: “*What percentage of your budget were the VAAPFAP funds?*” The results are shown in Figure 5.20.

Thirty percent of the respondents have indicated that the share of the VAAPFAP funds was 10 percent or less. Twenty-two percent of the respondents received from 21 to 30 percent of the VAAPFAP funds for their project budgets. An average the VAAPFAP funds accounted for 30 percent of the company budget. This indicates the usefulness and effectiveness of VAAPFAP for the agribusinesses which have participated in this program.

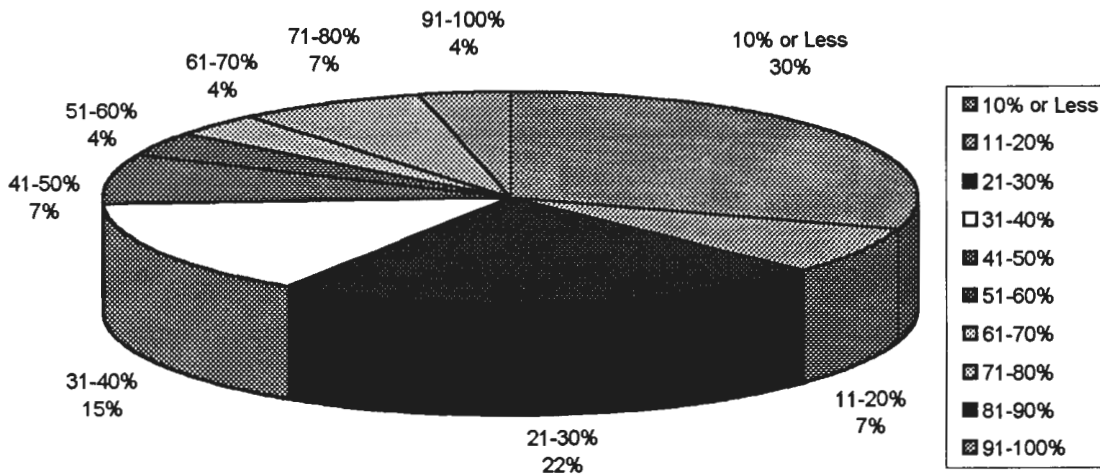


Figure 5.20. Percentage of the VAAPFAP Funds in the Respondent Project Budget

Summary: A comment of one of the respondents could be used as a summary for this section: “ The advice, assistance and financial confidence that VAAPFAP has provided are very much appreciated. The program has definitely given us a jump start and we are very grateful for that.”

4. *Could VAAPFAP be used as a model in other states?*

Considering all the benefits and usefulness of the Value-Added Agricultural Products and Processes Financial Assistance Program in the State of Iowa, this program could serve as a model for the agricultural states, such as Illinois, Nebraska, Missouri, North Dakota, Wisconsin, Minnesota and others, if they have not yet implemented similar financial support for their agribusiness companies.

As Joseph Jones, the program coordinator, has mentioned, he has received several calls from other states wanting to learn about program activities and experience. There was increased interest in the Iowa network of facilities equipped with grain analyzers, one of the VAAPFAP successful projects which made Iowa well-poised to lead the nation in producing and marketing specific trait grain. Other successful projects are also a good promotion of VAAPFAP.

However, VAAPFAP has been operating only three years. This program is very young and will require some improvements. First of all its monitoring system has to be improved. One version of such an evaluation form has been designed by this study (see Appendix D).

To learn about the survey respondents opinion they were asked a question: “*What do you think should be done to increase the effectiveness of VAAPFAP?*” The survey responses are shown in Table 5.5.

All of the suggestions should be considered by IDED to provide positive improvements for such a unique program as VAAPFAP. As one of the respondents noted: “We need to use state funds wisely. Using them to add value to agricultural products makes more sense than most other programs”.

Table 5.5. The Respondents' Suggestion How to increase the VAAPFAP Effectiveness

Respondents' Suggestions	Number of Responses
1. Increase amount of funds for the number of supported projects	4
2. Create tax incentives for applicants who awarded VAAPFAP funds	1
3. Initiate more favorable publicity for grant recipients	1
4. Provide more grants and zero interest loans	1
5. Provide state credit/rebate according to production. The credit/rebate would be a tax filing procedure rather than a grant writing process. Grant writing constitutes a vocabulary and values orientation than an actual business valuation	1
6. Weigh project importance on economic impact - and value added to raw product	1
7. Combine forgivable and loan amount to expand project assistance to start operations	1
8. Conduct of on-site visits and evaluation of projects	1
9. Respond on a timely manner	1
10. Permit of funding after projects are under way	1
11. Link some of the new ideas coming out of our colleges with Iowa people who could put them into production	1
12. Create news letter from IDED	1
13. Assign each project to a successful entrepreneur	1

Summary: Even though VAAPFAP has more than three years of operation, this program has already proved that through its activities state funds can be used very effectively to increase the opportunities of value-added agriculture and bring benefits to the state of Iowa. This program might be suggested as a model for the other states interested in supporting value added agriculture.

5. What is the prospectus of the VAAPFAP opportunities for the future?

The majority of the survey participants consider VAAPFAP as an excellent program which builds on Iowa's core competency in agriculture production. They are sure that the program is working effectively and believe that it should be expanded in the future. A summary overview of the VAAPFAP fund indicates that the prospectus for continuation is strong. Favorable impacts on the desired results, i.e., diversification of Iowa's economy and the promotion of new markets for Iowa's farmers, have been achieved.

A review of responses without empirical evidence critiquing the fund indicates that there are a number of potential program enhancements that should be reviewed in order to improve the effectiveness and scope of the goals of the fund. Among those items most often mentioned as considerations for changes have been: (1) generate publicity for grant recipients; (2) establishment of a monitoring system; (3) establishment of a newsletter to better inform the recipients and others of current success stories; (4) expansion of scope of the fund; and (5) process the funding on a timely manner.

Past recipients have the opinion that the current style of publicity serves the VAAPFAP program, but does little to communicate the nature of the local business and corresponding impact on the local community. It is thought that current publicity is basically an

announcement of the award and not information that builds external relations with the receiving enterprise. Some coordination in the development of news releases with local sources would yield increased communications.

Currently there is little tracking of ongoing information once the award is announced and funded. Establishment of information that tracks increases in employment, gross sales, commodity utilization, diversifying uses and other information yet to be determined could be utilized as communications to legislature, news sources, IDED management and entrepreneurs interested in the success of certain technology and/or products.

Some respondents have suggested the establishment of a newsletter that would be developed and published by the IDED to inform the recipients and other interested parties of the success or status of previous awards. This is at least in part connected to the continuing publicity issue of a previous paragraph.

Several respondents have voiced alternative types of assistance that may be considered by VAAPFAP. Current assistance is provided through the awarding of grants, loans, forgivable loans and deferred loans. Other alternatives that have been suggested have been tax credits and tax abatements. Other considerations also may be considered but were not mentioned by any of the survey respondents.

Summary

The Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) was introduced in FY 1994 by the Iowa Department of Economic Development to help diversify Iowa's economy and promote new markets for Iowa farmers. During FY 1995-1997, IDED reviewed one hundred and fourteen applications and provided \$14.6 million

financial support to sixty-eight innovative and value-added agricultural projects, increasing the number of awarded projects each year. The average award per company was approximately \$215,000 with a range of \$20,000-900,000.

Financial assistance from the State of Iowa for agribusinesses interested in developing and introducing innovative or value-added agricultural products or processes is critical because small and medium-sized agribusinesses often cannot introduce their innovative and value-added products or processes without financial support from public funding. This is especially true for new businesses.

The study showed, almost one third of the respondents, including 60 percent of the small agribusinesses, would not introduce their innovative or value-added projects without the VAAPFAP investments. More than 39 percent of the survey participants were not sure if they could introduce their innovative or value-added product or process without the financial support from VAAPFAP. Forty percent of the new businesses and twenty-three percent of the companies with expansion of existing business would not have introduced their projects without the VAAPFAP support. The majority of the respondents have indicated that their projects are *important* and *very important* for development of economic activity in their communities.

Among the most important benefits from their projects, the survey participants listed job creation; adding value to key commodities of Iowa economy; raised public awareness of value-added agriculture; increased stability of agribusinesses; and income potential for farmers and other agribusinesses.

VAAPFAP encourages new business development in value-added area. As the survey has indicated, VAAPFAP supported fifteen new businesses and thirteen companies with expansion of existing business in the State of Iowa during FY 1995-1996. Clearly, this program has brought new business activities to rural and metropolitan areas.

Considering all the benefits and usefulness of VAAPFAP in the State of Iowa, this program could serve as a model for the other agricultural states, which have not yet implemented similar financial support for value-added and innovative agricultural projects.

However, VAAPFAP is a very young program and will require some improvements, such as establishing a better monitoring system; generating publicity for grant recipients; establishing a newsletter to better inform the recipients and others of current success stories.

Even though VAAPFAP has had more than three years of operation, this program has already proved that through its activities, state funds can be used very effectively to increase the opportunities of value-added agriculture and bring benefits to the State of Iowa. The majority of the survey participants consider VAAPFAP to be an excellent program which builds on Iowa's core competency in agriculture production. They are sure that the program is working effectively and believe that it should be expanded in the future. A summary overview of the VAAPFAP fund indicates that the prospect for continuation is strong.

Notes

1. Phil Dunshee, "Report to the General Assembly on Value-Added Agricultural Products and Processes Financial Assistance Program," (IDED, Des Moines, IA: n.d.), n.p. (Xeroxed).
2. Joseph Jones, "VAAPFAP Summary," (VAAPFAP, IDED, Des Moines, IA: October 1, 1997), n.p. (Xeroxed).

3. Jonathan Harsch, "New Industrial Uses, New Markets for U.S. Crops: Status of Technology and Commercial Adoption," U.S. Department of Agriculture, Cooperative State Research Service, (August 1993):1.
4. Harsch, 64.
5. "MBS Composition Systems Business-Plan," (VAAPFAP, IDEED, Des Moines, IA: May 21, 1997), n.p. (Xeroxed).
6. Patricia Boekhoit, "Financing Innovation in the Post-Subsidy Era - Public Support Mechanisms to Mobilize Finance for Innovation," International Journal of Technology Management , 12 (July/August 1996): 762.
7. "Iowa's Agriculture Industry: Public Opinion Survey," Meyocks and Priebe Advertising, Inc., September 2-11, 1997.
8. Joseph Jones, "VAAPFAP Summary," (VAAPFAP, IDEED, Des Moines, IA: October 1, 1997), n.p. (Xeroxed).
9. Terry E., Branstad, "Solid Investment in Iowa's Ag Future," The Des Moines Register, (February 13, 1998): 4A.
10. "Iowa's Agriculture Industry: Public Opinion Survey," Meyocks and Priebe Advertising, Inc., September 2-11, 1997.

CHAPTER 6

SUMMARY AND CONCLUSIONS

The study has attempted to (1) provide an overview of the Value-Added Agricultural Products and Processes Financial Assistance Program from 1994 through 1997 as an example of public financial support of value added agriculture, (2) examine the effectiveness of this program for economic development of the State of Iowa and agribusinesses which have participated in VAAPFAP, (3) determine the possibilities of VAAPFAP for use as a model in other states, and (4) provide a prospectus of the VAAPFAP opportunities for the future. This chapter provides conclusions from the study, details limitations, and offers suggestions for future research.

Conclusions

Based on the research findings from Chapter 5, several conclusions may be drawn. These conclusions have significance for practitioners, the field of agribusiness, and researchers.

Significance for Practitioners

The study holds a number of significant implications for practitioners. The Value Added Agricultural Products and Processes Financial Assistance Program could be considered by policy-makers as a new tool for financing innovative and value-added products and processes.

Based on the study results, it appears VAAPFAP has been effective from the beginning of its operations in 1994. VAAPFAP provides financial support to agribusinesses in area of development and introduction of innovative and value-added agricultural products and

processes. This study concludes that there is a great potential for those agribusinesses and producers to learn about public financial assistance and its benefits.

Twenty-six agribusinesses that have received financial support from VAAPFAP responded to a survey designed to quantify certain aspects of the current IDED VAAPFAP initiative.

Almost one third of the companies would not have introduced their innovative or value-added product or process without the financial support of VAAPFAP. This number even goes higher to 60 percent when small companies respond to this question. Public financial assistance was particularly important to the implementation of new business (50% while there was a smaller reliance for expansion of existing business).

The results of this study will be useful for agribusinesses seeking for support from public funds, and for policy-makers who are in charge of making these funds available for them.

Significance for the Field of Agribusiness

The study reveals areas that will apparently play an increasing role in sources of financial support of value-added agriculture. Where relatively little information has previously existed, the study has provided some knowledge on the importance and use of public funds by agribusinesses to develop and introduce innovative and value-added agricultural products and processes.

The data conclude that younger firms and those with high technological and commercial risks have difficulty in attracting external capital. This research confirms that

public assistance is needed in order to provide new business and expand existing business in the area of value-added agricultural products or processes.

This need can provide agribusiness with necessary definition and future implications in public policy-making regarding value-added agriculture.

Significance for Researchers

The study has significance to two primary areas of academic interest: (1) value-added agriculture and (2) public financial support . Examining issues in both fields shall hopefully present new knowledge as well as explore existing knowledge.

In the area of public financial support for value-added agriculture, there is little existing research that affects this area.

The above research concludes that public financial support is needed especially to small and beginning innovators. The survey also concludes that the public is not aware of value-added agriculture nor programs to support value-added activities. This research can be beneficial to those researchers that may want to develop a strategic plan for improvements to the existing initiative and to those researchers that may want to replicate a similar program in another state.

Suggestions for Future Research

This study has provided some basic information regarding the importance of public financial support for agribusinesses in the area of innovative and value-added agricultural products and processes. Further research would be useful to empirically evaluate some of the concepts suggested in this study. The following are suggestions for additional research in the area:

- Determine means of publicizing VAAPFAP to potential clients and various stakeholders of the importance of the policy of public financial assistance.
- Ascertain effective evaluation for monitoring and summarizing the results of the public assistance, analyzing increased employment, commodity consumption and other benefits.
- Determine new types of support - beyond loans, grants and forgivable loans to research tax credits, progressive/goal oriented incentives for forgiveness and possible tax holidays.
- Continue research that would analyze annual results of VAAPFAP that would provide critical information to policy-makers and users of the initiative.

Limitations of the Study

Several conditions must be taken into account in assessing the effectiveness of the research. First, the VAAPFAP initiative is in its infancy and thus any conclusions are difficult to reach due to limited program experience. Likewise, most of the fund recipients were new companies or those expanding with new products, therefore, having inconclusive sales and revenue. And finally, the number of companies participating in the survey is statistically insignificant to provide conclusive results.

Summary

This chapter concludes the study by offering conclusions drawn from the research. The study offers significance for (1) practitioners, (2) the field of agribusiness, and (3) researchers.

The field of agribusiness benefits significantly from the public financial assistance of VAAPFAP, especially small agribusinesses and those introducing new products and processes.

Effective results of VAAPFAP since its inception concludes that various stakeholders of Iowa have benefited from its initiatives. This success can provide confidence to potential agribusiness clients and provide a basis for continuation and correcting any limitations by policy-makers.

Studies of awareness and publicity, evaluation and the types of support can be the basis for future research.

Even though VAAPFAP has fewer than three years of operation, this program has already shown that through its activity state funds could be used very effectively to increase the opportunities of value-added agriculture and bring benefits to the state of Iowa. This program might be suggested as a model for the other states interested in supporting value added agriculture.

APPENDIX A

VAAPFAP PROJECTS' DESCRIPTION

**VALUE ADDED AGRICULTURAL PRODUCTS AND PROCESSES
FINANCIAL ASSISTANCE PROGRAM**

Project Title - Location - Approval Date

PROJECTS FUNDED OR APPROVED FOR FUNDING FISCAL YEAR 1995

Bee-Lor, Inc., Oskaloosa, 11/09/94

\$500,000 to market a tofu/pork bratwurst that was developed in cooperation with ISU. This product uses Iowa soybeans and Iowa pork to make a good tasting low-fat bratwurst sausage. The project involved a 60% loan/40% grant, with 60% funded at project commencement and the remainder as the company reaches certain sales goals.

Field Trials, Inc., Mingo, 12/14/94

\$70,000 grant to develop a portable machine to separate useful solids from liquid waste in hog confinement waste lagoons. The separator uses a flocculent in combination with a mechanical separation process and is designed to reduce the source of odor from lagoons while extracting useful fertilizer products. Its portability allows the machine to be moved from farm to farm as needed.

Applied Agricultural Technologies, Inc., Prole, 1/17/95

\$ 1 00,000 grant to develop a small-scale corn ethanol plant for use in association with cattle feed lots of 50 to 500 head. The goal of the project is to demonstrate a design for an ethanol/gluten feed producing plant that can be matched in size to the number of cattle to be fed from the products of the plant.

Sunrise Energy Co-op, Blairstown, 1/17/95

\$900,000 (\$720,000 loan/\$180,000 grant) to build a 7.5 million gallons per year ethanol plant in conjunction with a cattle feedlot to Renewable fuel. Animal production. use the corn gluten co-products of the ethanol process. Grant funds were committed for pre-construction planning and business Producer participation. development, with the remainder available at the point that all required permits were obtained, membership equity in the co-op was confirmed, and permanent financing in place to complete the \$15 million overall project.

W&G Marketing Company, Inc., Jewell, 1/17/95

\$100,000 grant to expand to market a whole hog bulk barbecue. This company will use roasting size pigs (under 200 lb.), which are usually unmarketable and a cost to the pork producer.

Bravo Cardiovascular, Inc., Polk City 1/17/95

\$50,000 grant to support relocation of a California company to Iowa. Bravo purifies porcine heart tissues to manufacture valves used to replace damaged human heart valves.

Mid Ag, L.C., Red Oak, 3/17/95

\$ 100,000 grant to be used to develop a genetics and feeding program for Hereford cattle, and a marketing initiative for a premium branded beef cuts. The project provides a unique level of quality assurance by controlling its product from pasture to the plate.

Permeate Refining, Hopkinton, 3/17/95

\$500,000 loan/grant for expansion of an existing processing plant. The company processes sugars and starches from other grain and food processing facilities to produce ethanol. Funding was provided as a 60% loan and 40% grant.

Precision Beef Alliance, Oakland, 3/17/95

\$25,000 loan/\$25,000 grant to establish a controlled genetics program for beef cattle which will assist local producers to raise consistently higher quality beef.

NeWorld Gourmet, Grundy Center, 3/17/95

\$49,187.50 loan/\$49,187.50 grant for acquisition of processing equipment and for marketing value-added microwave-ready pork and beef specialties.

Power Plant Aggregates, Sioux City, 3/17/95

\$48,108 loan/\$48,108 grant for a project developed with ISU to mix alkaline waste products from coal-burning power plants with hog manure to limit odor while increasing fertilizer value of the manure.

Natural Products, Inc., Grinnell, 4/11/95

\$137,500 loan/\$137,500 grant to purchase a soybean dry-milling plant in Minnesota and move it to the Grinnell area. The company will produce flour from soybeans through a dry roasting process that does not involve the use of chemical solvents, allowing them to market a "natural" soy product for health food stores and the baking industry. The process will increase demand for identity-preserved soybean varieties, including organically grown soybeans for this fast growing market.

AMPC, Inc., Ames, 4/11/95

\$111,000 loan/\$259,000 grant to refurbish a production facility in Harlan at an overall cost of \$2.5 million. The facility is to process pork tissue from local meat packers. The material was formerly used only for pet foods or as waste product, and the AMPC process will convert it for new use in higher-value food ingredients. This project will add an estimated 65 jobs in the Harlan area.

Simply Better Foods, Inc., Boone, 4/11/95

\$150,000 loan/\$150,000 grant to bring a new company to Iowa that uses technology from Australia to produce soy-based specialty food products, including soy cheese and Sun Nut Spread.

Seven Oaks, Inc., Lineville, 5/23/95

\$20,000 grant to meet requirements for an SBA loan to purchase equipment for manufacture of lump charcoal from Iowa hardwoods for sale to restaurants and institutional food services.

J&L Grain Roasting, Inc., Riceville, 5/23/95

\$75,000 forgivable loan for equipment to be used in a soybean extrusion process. The soybean meal will be used for livestock feed and the oil will be sold to feed companies.

MBS, Inc., Story City 5/23/95

\$187,500 grant to equip 15 Iowa grain elevators with state-of-the-art grain testing instruments and to train personnel in the use of the new technology. The use of the new instruments allows the elevators to test for critical characteristics in corn and soybeans, including oil content, starch and protein. These characteristics determine the suitability of grain for use in highly specialized applications. Producers receive premium prices for high-quality grain grown for these markets.

Western Ethanol Corporation, Glidden, 5/23/95

\$300,000 loan/\$300,000 grant to help build a dry mill ethanol plant. This plant will process approximately 1,000,000 bushels of corn annually and will produce 30,000,000 gallons of ethanol. Funds were released as required permits were obtained. Bank financing was in place, and local equity investment was confirmed.

PROJECTS FUNDED OR APPROVED FOR FUNDING IN FISCAL YEAR 1996

Homestead Farms, Inc., Des Moines, 7/25/95

\$125,000 (50% loan/50% grant) to bottle Iowa soybean oil for retail and institutional markets. The company is presently the only soy oil bottling facility in the state.

Interwest, Inc., Ralston, 8/29/95

\$100,000 grant supporting an overall project of \$700,000 to build and equip a plant to process soybeans into methyl ester and glycerol. The methyl ester is used by others in the manufacture of bio-diesel fuel and industrial cleaners and the glycerol will be sold on open market for a variety of chemical uses.

Jaeger Percherons, Charles City, 8/29/95

\$20,000 grant to be used for equipment in a \$163,000 project to collect urine from pregnant Percheron mares. This product is purified, dried to a powder form and sold to pharmaceutical companies to be made into estrogen compounds for human pharmaceutical use.

Minsa Corp., Red Oak, 8/29/95

\$225,000 (\$90,000 loan/\$135,000 forgivable loan) as part of an overall \$4 million project to remodel and expand a vacant corn milling facility to produce white corn tortilla flour for the growing Mexican food market in the Midwest and East Coast. Minsa will be contracting for and purchasing white corn from growers in the local area.

Green Products, Green Mountain, 9/29/95

\$100,000 (\$20,000 grant/\$80,000 forgivable loan) to produce litter for small animals and birds from corn cobs in a unique process. The \$20,000 grant is for final laboratory safety testing of the product. If proven safe, the \$80,000 forgivable loan was authorized for start-up costs of the new business.

Iowa Quality Meats, Earlham, 9/29/95

\$110,000 (\$33,000 loan/\$77,000 forgivable loan) to further develop and market fin riblets from sowmeat. This product is to be marketed primarily in the appetizer market as an alternative to buffalo wings.

Inno-Valve IVT, Polk City, 9/29/95

\$150,000 (\$45,000 loan/\$105,000 forgivable loan) to expand facilities and to pursue approval of the federal Food and Drug Administration. Inno-Valve receives hog hearts from area packing plants and processes them into valves that can be transplanted into diseased or damaged human hearts. Inno-Valve was originally funded in FY 95 to move the company from California to Iowa. After the move to Iowa, the company name was changed from Bravo to Inno-Valve.

Sioux Biochemical, Sioux Center, 10/27/95

\$95,000 forgivable loan to further develop an emerging niche market for specific proteins. These proteins are isolated from various food animal tissues and are purified and sold for use in biotechnology research projects by its customers.

Fluegge & Terpstra, Albia, 1 1/3 0/95

\$54,700 Forgivable loan to organize and launch an ostrich meat production and processing operation in southern Iowa. The project also provides for further developing markets for ostrich meat products.

Integrated Agri-Energy, Atlantic, 1/27/96

\$700,000 loan/ \$200,000 grant to build a 10 million gallon per year ethanol facility in SW Iowa. This plant will utilize 4 million bushels of corn per year and produce 103,000 tons of wet corn gluten cattle feed to be used by local beef producers.

NOBL Laboratories, Sioux Center, 2/23/96

\$100,000 loan/ \$150,000 forgivable loan for development of the Pre-Harvest Continuous Quality Improvement Monitoring System. This system will reduce pathogens in pork, improve eating quality and enhance animal growth performance. The project responds to plans of the United States Food Safety Inspection Service to require meat and poultry plants to install quality assurance procedures and performance standards. NOBL's system allows animal producers to reduce pathogens such as salmonella, trichina, toxoplasma and to reduce potential of chemical residues.

Silk Purse Enterprises, Inc., Klemme, 3/27/96

Silk Purse Enterprises is a subsidiary of Mary Ann Specialty Foods and received \$40,000 forgivable loan to expand manufacture of pet treats made from pig ears.

Lee Seed Co., Inwood, 4/25/96

\$50,000 forgivable loan to purchase equipment to process Iowa soybeans into snack foods, rather than have that work contracted to processors in other states.

Natural Chem Industries, Coming, 4/25/96

\$300,000 loan/\$200,000 forgivable loan to assist in moving a processing plant to Coming, Iowa. The plant uses syrup from ethanol plants to recover pure glycerin and other nutrients. Pure glycerin is used in cosmetics, pharmaceuticals, tobacco products, food, beverages, and explosives.

The Butcher Shop, Audubon, 5/23/96

\$50,000 forgivable loan for expansion of a processing facility to slaughter and process emus and ostriches. The healthful quality of ostrich and emu meat has supported growing demand that cannot be filled from the limited processing capacity in Iowa.

Bioresource Recovery Systems, Riverside, 5/23/96

\$140,000 forgivable loan, \$60,000 loan to expand and market a pure organic fertilizer. This company has a unique product containing more than 50% material from corn and soybeans and legume crops (three different bean varieties) to be grown locally. The company will contract with area producers to grow these special varieties.

MBS Composition Systems, Story City, 6/26/96

\$137,500 forgivable loan to assist 15 Iowa grain elevators in purchasing near-infrared sensing instruments to be used for testing grain for protein, oil, starches, etc. The ability of the elevators to confirm valuable qualities in grain will allow producers receive premium prices for high quality specialty corn and soybeans.

Ag Processing Inc. (AGP), Sergeant Bluff, 6/26/96

\$300,000 loan and \$200,000 forgivable loan for costs associated with expansion and environmental compliance improvements of a soybean processing facility. The overall project cost was \$5 million. This facility is for production of methyl esters which are used for bio-diesel, degradable industrial solvents and cleansers, and spray adjuvants.

Precision Beef Alliance, Atlantic, 6/26/96

\$37,500 loan and \$87,500 forgivable loan to establish a retail marketing program to work in conjunction with the data collection and consulting program that the alliance provides to beef producers. Producers should receive a premium for the cattle that are marketed through this program.

LatnPost Meats, Des Moines, 6/26/96

\$100,000 forgivable loan to expand, improve the process, and increase the production of chitterlings. Chitterlings are part of the hog's large intestine, which are processed into an edible product.

PROJECTS FUNDED OR APPROVED FOR FUNDING IN FISCAL YEAR 1997

Mid Ag, Red Oak, 7/1/96

\$500,000 loan and \$200,000 forgivable loan (earmarked through legislative action) to determine feasibility, plan and construct a state of the art beef processing facility for processing of specialty products.

Iowa Oat Processors, Chelsea, 9/1/96

\$60,000 loan and \$140,000 forgivable loan to purchase and remodel an oat processing facility that was in a bankruptcy proceeding, and to start a new business to supply processed Iowa oats to the baking industry.

Manildra Corp., Hamburg, 8/27/96

\$700,000 loan/\$200,000 forgivable loan to improve and remodel a closed ethanol plant in Hamburg. The project will utilize the waste stream from an adjacent wheat processing facility, will utilize 1,660,000 bushels of corn per year and will provide 13 jobs in the Hamburg area.

Chemtec of Iowa, Des Moines, 8/27/96

\$50,000 forgivable loan to produce and sell an odor control product (MPC) to be used primarily in the pork production industry. This product was tested at ISU and found to control approximately 85% of odors from confinement waste lagoons.

Prototec, Inc., Le Mars, 8/27/96

\$100,000 loan/\$150,000 forgivable loan to start up a specialty meat processing facility in Le Mars. This facility employs a patented process that uses tougher, lower-value cuts of meat from area slaughter facilities and converts them into tenderized products for the food service and retail markets.

Glenn Freie Natural Meats, Latimer, 8/27/96

\$40,000 forgivable loan to produce, process and market a natural pork product. The company will own and control the genetics used to produce the pork through licensing agreements with independent producers. The products will be fresh meat and cooked meat in packaged in old-fashioned jars as a table ready product.

Great Lakes Chemical Corp., Harlan, 8/27/96

\$100,000 forgivable loan to locate a corn stover processing plant in Harlan. This plant will compress and cube corn stalks to be used in the Great Lakes Chemical plant in Omaha to produce the chemical furfural. Furfural is used in a variety of products such as plastics, insecticides, concrete, and paints. Producers will be able to sell corn stover for \$30 per ton, and the project will provide 18 jobs in the Harlan area.

Sioux Biochemical, Sioux Center, 9/21/96

\$50,000 forgivable loan to purchase additional equipment and a new building to expand their products of purified animal tissue proteins used in biotechnology research.

Iowa Turkey Growers Coop, West Liberty, 10/21/96

\$700,000 loan/\$200,000 grant to purchase the Louis Rich turkey processing facility in West Liberty. The coop consists of 43 producers who raise 3.5 million turkeys per year. This project will support 425 jobs in the West Liberty area and will maintain operations in a facility that is critical to an important industry within the state.

Oxley's Percherons, Sac City, 11/19/96

\$20,000 forgivable loan to be used for equipment to collect urine from pregnant Percheron mares. This product is dried to a powder form and sold to pharmaceutical companies to be made into estrogen compounds.

Wildflowers by Wubbon, Forest City, II/ 1 9/96

\$ 10,000 forgivable loan for production equipment and initial marketing expense for natural prairie plant materials.

Tabor Family Winery, Baldwin, 12/20/96

\$95,000 forgivable loan to assist construction of a building, purchase of equipment, and marketing of Iowa produced wine from grapes grown in Iowa and elsewhere.

Fibred Iowa, Inc., Iowa Falls, 1/31/97

\$100,000 loan/\$150,000 forgivable loan to be used with \$250,000 provided to the company by the City of Iowa Falls for improvements in its waste handling and treatment systems. The company processes hulls from soybeans into dietary soy fiber for human food supplements. It employs 25 persons and will utilize 650 tons of soybean hulls each week after its waste treatment processes have reached state permit requirements.

Cedar Prospects, LLC., Castana, 3/6/97

\$27,500 forgivable loan to be used to harvest Eastern Red Cedar trees in Southwest Iowa and to extract the oil for use in the perfume industry, for deodorizers, and other industrial applications. The tree species has encroached on pastures in 15 Iowa counties and is a problem for farm operators.

Natural Products, Inc., Grinnell, 4/97

\$250,000 loan supplements a previous award of VAAPFAP funding for this company's entry into production of low-fat soy flour. This project supports expansion of their milling capacity to meet rapid growth in export market demand for naturally processed, identity preserved soy products.

Iowa Pacific Processors, Inc., Des Moines, 4/24/97

\$98,000 loan and a \$149,000 forgivable loan to support purchase, installation and marketing for a Vacuum Skin Packaging machine (VSP), a novel system for meat products packaging and preservation. The total cost of the project is \$530,500. The company exports virtually all of its processed beef products to Asian markets. Introduction of the new packaging system allows significant expansion of its market reach.

Agri-Industries, Des Moines, 5/28,97

\$110,000 forgivable loan to support an overall project expense of \$220,000 to introduce a soybean oil hydraulic fluid for use in rail car movers and later in other industrial lubricant applications. Agri Industries is owned by 250 producer cooperatives and operates a variety of business units. Among those subsidiaries is Industrial and Transportation Equipment Company (ITEC) which sells, services and rebuilds rail car movers, many of which are in use at grain elevators and other food processing facilities. The soy-based oil offers a significant advantage in environmentally sensitive situations. This product is the result of four years of state-assisted research and development at the Ag Based Industrial Lubricants program of the University of Northern Iowa, carried out in its Waverly research center.

Family Tree Furniture, Ptnrshp., Albia, 5/28/97

\$50,000 forgivable loan to be used for a building addition and equipment for manufacture of specialty products made from local hardwoods. Family Tree Furniture features hand carved designs incorporated into rocking chairs, benches, and other types of indoor and outdoor seating. The business has enjoyed rapid growth that outstripped the capacity of existing facilities.

Specialty Leather Processors, Inc., Stratford area, 6/25/97

\$50,000 forgivable loan to launch a new business for tanning ostrich hides and other exotic leathers. The founders are former employees of a closed leather tanning operation that operated in Boone. With its closure, no facility remained in Iowa able to process high-value animal hides from ostrich, emu, rhea, or buffalo. Specialty Leather Processors, Inc. has also obtained a loan of \$150,000 from the U.S. Small Business Administration and will furnish \$75,000 of start-up capital from personal resources.

MBS Composition Systems, Inc., Story City, 6/25/97

\$200,000 forgivable loan to cost share the purchase and installation of 16 near-infrared grain quality measuring instruments to be placed at grain elevators throughout the state. This project is the third increment of funding for MBS Composition Systems. The overall project has hastened the entry of the Iowa grain industry in the value-added specialty grains markets, allowing producers and elevators to command premium prices for certified, identity-preserved corn and soybeans. Iowa leads all states in the number of elevators certified to receive identity preserved grains, largely as a result of this project.

Elite Visions, Inc., Waukon, 7/18/97

\$60,00 loan and a \$140,000 forgivable loan to be used to commercialize the Gourley Scope, an advanced visualization device used in artificial insemination of sheep and swine. The Gourley Scope enables precise and reliable insemination of animal species in which this technology has been difficult to apply in the past. Use of the product permits less costly and more rapid genetic improvement.

Iowa Soy Specialties, L.L.C, Vinton, 8/27/97

\$140,000 equity grant and a \$60,000 loan is used by this start-up firm to leverage over \$500,000 of other funds to construct and equip a facility to manufacture low-fat soy flour and natural oil. Development of new manufacturing processes for this product was pioneered by Iowa Soy Specialties to serve rapidly expanding markets for soy flour in the baking industry. The company will contract local farms to produce special soybean varieties for domestic and export markets.

Kalona Foods, L.L.C., Kalona, 8/27/97

\$100,000 forgivable loan to support a total budget of \$375,000 to start a new egg processing facility for eggs to be marketed as "drug and medication free." The eggs will be produced in local farms and packaged by the new firm for distribution to area retailers. The business will restore local job opportunities in an existing facility that had been vacated by the prior owners.

Agren, Inc., Carroll County, 9/24/97

\$40,000 forgivable loan to support a total project budget of \$80,000 to develop and market a manure brokerage to serve West Central Iowa. Agren's program is to provide full analytical services for both manure, soils, and crop residues, and will include an insurance policy on crop fertilization and environmental compliance.

Fairview Farms, Inc., Corwith, 10/22/97

\$75,000 loan to support an overall project budget of \$970,000 used to construct a soybean cleaning, sizing, and packaging facility for exporting food grade soybeans to Japan. Fair-view Farms, Inc. contracts local growers for a variety of specialty soybeans, including certified-organic and non-genetically modified, for which growers receive premium prices. The company employs unique technology that allows precision sorting of beans by size as well as type.

Ostrich Cooperative of Iowa, Ogdan, 10/22/97

\$60,000 forgivable loan to support a project budget of \$120,000 used to purchase packaging machinery for specialty ostrich meat products. The project is being carried out in cooperation with Amana Meats and Smokehouse which will package new ostrich products for sale under its popular label. A part of the project budget will also support additional marketing activities for this and other ostrich meat products.

Tia Dora's Tortillas, Waterloo, 12/2/97

\$30,000 loan and a \$30,000 forgivable loan in an overall budget of \$120,000 to start a business manufacturing fresh white corn tortillas for sale through Midwestern retail outlets specializing in traditional Hispanic foods. Corn is to be acquired from Iowa growers in the Waterloo-Cedar Rapids areas.

Ace Union Foods Corporation, Estherville, 12/2/97

\$325,000 VAAPFAP forgivable loan in a total project budget of \$6,000,000. Ace Union Foods of Taiwan is one of the leading exporters of pork to Japan. It has acquired the Midwest Quality Meats plant in Estherville as its first North American site for processing pork products, all of which will be sold in the Japanese market. Its operation will add 250 new jobs and will process 48,000 hogs per month within a five year period.

Iowa Corn Processors, LLC. (formerly Western Ethanol Corporation), Glidden, 12/2/97

\$400,000 loan and a \$200,000 forgivable loan converted a VAAPFAP award made originally in 1995 for an ethanol plant. The sponsors were allowed to apply VAAPFAP funds in a different project to utilize pledged contributions of 380 area farmers totaling \$1.5 million. The new project will construct a facility for dry corn milling to utilize 10,000 bushels per day to produce brewery grits, snack foods, low fat corn meal and hominy in a process patented by the plant's co-owner, Cereal Technologies, Inc.

Homestead Farms, Inc., Des Moines, 12/2/97

\$65,000 deferred loan to move the firm to new facilities, to purchase inventory, and for other working capital purposes. The company performs custom packaging of vegetable oils and liquid shortening for retail, commercial food distributors and manufacturers, and is Iowa's only African-American owned food products producer. Its certification under the U.S. Small Business Administration Section 8(a) program will increase its opportunities to supply its products to federal agencies.

APPENDIX B
SURVEY QUESTIONNAIRE

Survey of Agribusiness Firms Participated in VAAPFAP

Thank you for your participation in our survey. Your response will be helpful to us in developing VAAPFAP in the future

Please fill out this survey as completely as possible. If you don't know the exact answer, give your best estimate. *Your individual responses will be confidential* - only a summary will be reported.

How did you learn about the VAAPFAP?

- | | |
|---|---|
| <input type="checkbox"/> Local Economic Development Organizations | <input type="checkbox"/> Media |
| <input type="checkbox"/> State Department of Economic Development | <input type="checkbox"/> Agricultural Organizations |
| <input type="checkbox"/> Other than above (Please notify) _____ | |

This section asks for general background information about your firm:

Description of your business project:

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> New business | <input type="checkbox"/> Expansion of Existing Business |
|---------------------------------------|---|

What percentage of your project budget were the VAAPFAP funds?

- | | | | | |
|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
| <input type="checkbox"/> 10% or less | <input type="checkbox"/> 21 - 30% | <input type="checkbox"/> 41 - 50% | <input type="checkbox"/> 61 - 70% | <input type="checkbox"/> 81 - 90% |
| <input type="checkbox"/> 11 - 20% | <input type="checkbox"/> 31 - 40% | <input type="checkbox"/> 51 - 60% | <input type="checkbox"/> 71 - 80% | <input type="checkbox"/> 91 - 100% |

Total number of employees in your company :

- | | | |
|--|-----------------------------------|--|
| <input type="checkbox"/> Fewer than 10 | <input type="checkbox"/> 25 - 50 | <input type="checkbox"/> 101 - 250 |
| <input type="checkbox"/> 10 - 24 | <input type="checkbox"/> 51 - 100 | <input type="checkbox"/> More than 250 |

Number of employees created by project:

- | | | |
|---------------------------------------|----------------------------------|--|
| <input type="checkbox"/> Fewer than 5 | <input type="checkbox"/> 16 - 25 | <input type="checkbox"/> 51 - 100 |
| <input type="checkbox"/> 6 - 15 | <input type="checkbox"/> 26 - 50 | <input type="checkbox"/> More than 100 |

Total company's revenue:

- | | |
|--|--|
| <input type="checkbox"/> Less than \$100,000 | <input type="checkbox"/> \$500,000 - 1,000,000 |
| <input type="checkbox"/> \$100,000 - 250,000 | <input type="checkbox"/> More than \$1,000,000 |
| <input type="checkbox"/> \$250,000 - 500,000 | |

Please turn over

Percentage of total revenue that resulted from this project implementation:

- | | | |
|-------------------------------------|-----------------------------------|-----------------------------------|
| <input type="checkbox"/> 5% or less | <input type="checkbox"/> 16 - 20% | <input type="checkbox"/> 41 - 50% |
| <input type="checkbox"/> 6 - 10% | <input type="checkbox"/> 21 - 30% | <input type="checkbox"/> 51 - 60% |
| <input type="checkbox"/> 11 - 15% | <input type="checkbox"/> 31 - 40% | <input type="checkbox"/> Over 60% |

How would you evaluate usefulness of the VAAPFAP funds for your company:

- | | | | | |
|--------------------------------------|---------------------------------|--|--|-------------------------------------|
| <input type="checkbox"/> very useful | <input type="checkbox"/> useful | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> not very useful | <input type="checkbox"/> not useful |
|--------------------------------------|---------------------------------|--|--|-------------------------------------|

How difficult was the procedure of your application approval?

- | | | | | |
|---|------------------------------------|---|---|--|
| <input type="checkbox"/> very difficult | <input type="checkbox"/> difficult | <input type="checkbox"/> somewhat difficult | <input type="checkbox"/> not very difficult | <input type="checkbox"/> not difficult |
|---|------------------------------------|---|---|--|

Would you introduce your innovative or value-added product (processes) without the VAAPFAP funds?

- Yes No Not sure

Comments: _____

How important is this project for development of economic activity in your community?

- | | | | | |
|---|------------------------------------|---|---|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> important | <input type="checkbox"/> somewhat important | <input type="checkbox"/> not very important | <input type="checkbox"/> not important |
|---|------------------------------------|---|---|--|

Please list the most important benefits from your project implementation:

- _____
- _____
- _____
- _____
- _____

What do you think should be done to increase effectiveness of VAAPFAP?

Other comments: _____

Thank you very much!

APPENDIX C

A LETTER TO SURVEY PARTICIPANTS

**IOWA DEPARTMENT OF ECONOMIC
DEVELOPMENT**

200 East Grand Avenue
Des Moines, Iowa 503309

March 17, 1998

Dear Mr. _____:

The Iowa Department of Economic Development is conducting a survey of agribusiness firms that have received financial assistance from Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP). The purpose of the survey is to gather information on the use and effectiveness of the VAAPFAP and give you the opportunities to report about your progress in participating in this program. The results of the survey will be made available to you and may be helpful in your future business activities.

The enclosed survey is self explanatory and should take only a few minutes of your time to complete. *Your individual responses will be confidential - only a summary will be reported.*

Please complete the form before March 25 and return it in the enclosed envelope. As noted, a copy of the results will be provided for your participation. Thank you for your cooperation.

Sincerely,

Joseph H Jones
Program Coordinator

APPENDIX D
EVALUATION FORM

**IOWA DEPARTMENT OF ECONOMIC
DEVELOPMENT**

200 East Grand Avenue
Des Moines, Iowa 503309

**VALUE-ADDED AGRICULTURAL PRODUCTS AND PROCESSES
FINANCIAL ASSISTANCE PROGRAM**

EVALUATION FORM

Company's Name: _____
 Date Submitted: _____
 Location: _____
 Type of Business: _____
 Number of Contract: _____
 Project Description: _____

• **Funding information:**

- Total project budget: \$ _____
- Type and amount of funding requested from Program: \$ _____
 Loan \$ _____ Grant \$ _____ Forgivable Loan \$ _____
- Amount awarded by VAAPFAP:
 - Loan \$ _____ Grant \$ _____ Forgivable Loan \$ _____
- Date awarded: _____

• **Product description:** _____

• **Completion date:** _____ (estimated)
 _____ (actual)

• **Product availability:** _____ (estimated)
 _____ (actual)

• **Market potential:** _____

• **Benefits for the State of Iowa:**

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

• **Labor**

- an estimate of personnel requirements for the project _____
- new jobs created by project _____ (estimated)
_____ (actual)
- average wage \$ _____ per hour
- number people trained _____

• **Annual Revenue resulted from this project implementation:**

- \$ _____ (estimated)
- \$ _____ (actual), including
 - domestic \$ _____
 - export \$ _____

• **Net Profit:** \$ _____ (estimated)
\$ _____ (actual)

• **Geographic areas of product distribution:** _____

Comments:

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