

**THE IMPORTANCE OF DIVERSIFYING
MINNESOTA'S AGRICULTURAL ECONOMY**

Working Group on New Farming Techniques and Products

Executive Branch Policy Development Program

State of Minnesota

January 1987

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EXECUTIVE SUMMARY

Diversification offers Minnesota farmers and rural residents a significant alternative to current monoculture growing and farm/economic specialization. This report outlines policy decisions and proposals necessary to bring the economic and employment benefits of diversification to Minnesota farmers.

The questions examined by this report include:

- o What is diversification and how might it benefit Minnesota's rural economy?
- o Are the opportunities for diversification large enough to help Minnesota's rural economy recover from its current depression and become more self-sufficient?
- o What barriers are there to establishing a more diversified farm economy?
- o What actions can the State take to assist farmers in creating a more diversified agricultural and/or rural economy?

Diversification Defined

There are two types of diversification offering opportunities for Minnesota economic development:

- o Horizontal Diversification. This means growing a wider variety of crops which will serve a wider variety of markets -- consumer, institutional food, food processors as well as export and animal feed markets. Examples of states whose farmers have prospered by pursuing these alternatives include Michigan, New Jersey, Vermont, California, Florida and Texas. Despite its climate Minnesota farmers can produce year round, steady income, as many are doing now with diversified operations.
- o Vertical Diversification. Minnesota crops could be processed into a wider variety of products before they are exported. This can be done with existing crops and should be encouraged for new fruit or vegetable crops being considered by large and small farm operations. An example of added processing for new crops would be using the new strain of hardy blueberries to make jams, syrups and flavorings as well as selling fresh berries.

Benefits of Diversification

The benefits of diversification are many and substantial. The most important are the creation of high value agricultural products which, while they require more labor and capital investment in growing/handling/production, provide greater returns and potential for Minnesota farmers and communities through:

- o Increased value for Minnesota land, agricultural assets and farming skills which would come from --
- o Increased return and income from farm and processing assets from --
- o Lowering the risk of failure for farmers by expanding the sources of income to a variety of crops not one single crop and --
- o Higher net profitability by producing goods whose value in local, regional and national markets exceeds cost of production.

The positive results of diversification can be seen in many areas of the country. In Massachusetts, over 1,000 new farms have come into production during the past five years while Minnesota has lost an estimated 6,000 farms. Land rents per acre in Florida are \$500 per year while Minnesota land rents are only \$40 to \$80 per year.

In addition, while export growth of commodity crops is expected to be flat world wide, export value of high value agricultural products is expected to rise by \$15 billion per year in the 1990's. If U.S. farmers can capture some of this growth, they can add as much as \$50 billion to GNP. States must make their own decisions to help their farmers pursue these opportunities.

Market Sizes and Opportunities are Significant

Market sizes for diversification opportunities vary in size from small profitable niches to those with potential dollar volumes in the millions to billions of dollars. It is important to remember that nearly all these markets started as small opportunities. Some discussed in the report include:

- o Soft specialty cheese. Soft cow and goat cheeses represent the best growing segments of the market. Several million pounds of goat cheese are imported annually. Its average retail price is \$8 to \$10 per pound, making a market over \$150 million in size. Even more sheep cheese is imported.

- o Fresh-pack fruits and vegetables. Minnesota farmers have not competed in supplying supermarket chains with a wide variety of horticulture crops. These markets are growing and State farmers can compete effectively with other growers by taking the necessary strategic and processing steps -- proper post harvest handling, good packaging, joint ventures with farmers or processors in other states to supply on a year round basis. Markets are regional in nature but national in scope and range into the billions of dollars annually. Returns on horticultural crops are considerably higher than traditional crops, asparagus and broccoli average returns of \$1,600 per acre and blueberries return \$1,200 per acre in the fifth year after planting and increase to \$8,500 by the tenth year.
- o Cottage industries. A variety of opportunities exist for on-farm or home based businesses for a range of skill levels. One Iowa farm family produces colored wool for natural colored wool clothing and sweaters: it now grosses several hundred thousand dollars annually.
- o Gourmet or specialty foods. Vermont and other New England farmers produce and sell fruit jams and spreads for \$3 to \$5 for an eight ounce container. These prices are much higher than supermarkets but the product is perceived to be unique. The proportion of the population purchasing gourmet items has grown from 4% to 20%.

Barriers to Diversification

The barriers to establishing a more diversified agriculture are:

- o Education: Informing and training people to pursue and make the opportunities successful. Traditional monoculture agriculture promoted in the State limits resources available for exploring new directions.
- o Financial: Equity-risk and loanable capital are limited in rural areas because of declining income and asset values from traditional crops. New tax rules may exacerbate this problem with higher capital gain taxes and lower write-offs for problem bank loans.
- o Marketing: While Minnesota is headquarters of several of the largest food processing and food wholesaling firms in the country, few Minnesota farmers compete in the higher value agricultural product market versus those in other areas of the country. The best and most knowledgeable marketers of fresh vegetables and fruits or the best direct marketers of processed products from other areas of the country sell more products here than our own farmers.
- o Location: Minnesota has fewer people, greater distance from markets, poorer weather, etc. than other areas of the country.

- o Regulatory Environment: Whether it be worker's compensation, unemployment insurance or licensing requirements, Minnesota has some perceived barriers to asset and job creation, especially in outstate areas and border communities.

Three Vital Ag-Policy Areas to Help Create More Diversification on Minnesota Farms and Communities

Agricultural Policy and Marketing

The Department of Agriculture should broaden its scope and be renamed the Department of Food and Agriculture. The Department in the past has focused its planning and attention on formulating responses to everchanging federal policies. It needs to take a more proactive role in representing and linking farmers and consumers in the State. Actions should include:

- o Organizing a separate office of the Department which would devote its attention to high value agricultural products. In many cases returns per acre, per man hour, and per dollar of investment are much higher than commodity crops and products (fruits, vegetables, ice creams, fillings/flavorings, etc.) Minnesota should follow the lead of other states and set up such a division.
- o The Minnesota Grown Program should be expanded. It should promote Minnesota processed products in addition to fresh products. Staff should be added to provide technical assistance on potential retail markets, farmers markets, roadside stands, developing marketing plans and research. Work to create the impression of quality and uniqueness on a regional and national scale where possible for leading crops and products with others to follow. Work on joint ventures with other states to sell our unique products. Minnesota Farmers Mart - state licensed outlets for quality Minnesota specialty products. These would be licensed and regulated for quality and would be the only establishments allowed to use the Minnesota Grown logo and promotional materials.
- o Maintaining statistics for alternate crops to keep buyers as well as farmers informed about supplies and prices of fruit and vegetable crops.
- o Rewarding marketing, processing and profitability skill of Minnesota farmers through a recognition and awards program versus the usual production skills for crops already in excess supply. Recognition awards for high value crops, lowest cost/efficient production and new high value agricultural product development.

Educational and Research Efforts

Most educational and research efforts in Minnesota have promoted the commodity crops and do not seek to commercialize crops with potential to be high value crops which require more care in growing, post harvest handling, storage and processing.

- o University efforts to establish a Center for Alternate/High Value Crops and Products should be encouraged. The Center would perform new crop research and development, economic analyses and equipment and processing technology development.
- o AVTI and regional college programs should offer programs on alternate/high value crops and products as well as technical assistance.
- o Minnesota Extension Service should expand to offer more assistance on alternate crops and small scale processing.
- o Other groups, agencies and departments of the university and college systems in the State should be organized to promote and develop programs for diversification into high value agricultural products.

Financing a Diversified High Value Agriculture

Because of a lack of risk capital in rural areas the following steps should be taken:

- o The range of capital available from joint public/private efforts to fund a diversified agriculture should be expanded - equity and working capital funds are often more important than secured long term debt financing. Debt capital secured by fixed assets is available from many conventional sources. State programs offering only secured mortgage funds or revenue bonds can assist only a limited range of projects and only when they are building fixed assets.
- o Joint ventures with successful area companies to produce ingredients for their products should be sought with State farmers and processors.
- o Review of successful programs in other states is also important to the State's remaining competitive. Nebraska, Massachusetts and Iowa have organized investment programs which fund a wide variety of projects from small roadside stands to large processing facilities. Some states have invested as much as \$200 million of public/private partnership funds in these efforts.

DIVERSIFICATION OPPORTUNITIES

There are a wide range of crop and food/agri-product opportunities available to Minnesota residents which can help them diversify their farming efforts. Conferences have been organized to promote new ideas like the Adapt 100 Conference by Successful Farming magazine in Des Moines, Iowa in December, 1986. This one conference alone was attended by 5,000 participants from through out the country.

The major resources the State has to pursue these opportunities include:

- o Highly Educated and Well Trained Labor Force: Well trained growing, harvesting, processing and marketing professionals are available to start and staff opportunities. The current problems in agriculture may provide lower cost entry than has been possible in the past.
- o Productive Land and Climate: Soils and rainfall in important growing areas of Minnesota are among the most productive in the world. This gives Minnesota lower cost of production for commodity crops; but also provides a resource for growing higher value horticultural crops for the growing fresh and frozen vegetable markets.
- o Experienced Firms and Managers: Minnesota is headquarters for some of the world's largest commodity handlers, food processors, and food distributors -- General Mills, Pillsbury, International Multifoods, Peavey, Land O'Lakes, Harvest States Cooperative, Super Valu, Red Owl, Nash Finch, etc.
- o Excellent Infrastructure: Minnesota's public and private infrastructure of roads, storage facilities, and processing plants provides an excellent base for expansion of existing products. Further, it provides a base of manufacturers and development for new products.
- o Excellent Educational System: Minnesota's educational system is among the nation's best. The key to making it more successful is in providing more incentives to look forward for creating new opportunities, not looking backwards to repeating past successes with excess production of commodity crops.
- o Minnesota's land costs presently average \$500 acre versus California which is \$2,800 per acre and Massachusetts which is \$4,000 per acre. Land rent costs are also much lower averaging \$50 per acre compared with other states like Florida where rents are \$500 per acre.

Overall, the key to pursuing diversification opportunities is creating a cooperative attitude and effort among the individuals and entities which encourages exchange of information and cooperative development of Minnesota opportunities. Federal solutions to rural problems cannot be counted upon, especially in these days of low world commodity prices, large federal deficits and shrinking rural population.

The opportunities described on the following pages are examples of hundreds if not thousands of potential crops and products which can provide incomes to Minnesota farmers. Pursuing the opportunities described below can and should be possible without federal assistance. These range from products requiring large capital investments (plastic packaging plants) to small cottage industries (fresh spice and seasoning production).

The sources of information regarding new opportunities to diversify Minnesota agriculture are very numerous. At the end of this report the authors have included a brief section on Suggested Reading which interested readers can use to expand their understanding and knowledge of new crops and food/agri-products.

The seven opportunities described below are summarized from a report completed last year for the Department of Energy and Economic Development, "Minneosta Agricultural Opportunities" completed by Thomas von Kuster & Associates (June, 1986).

Fruit and Vegetable Growing and Marketing

Consumption of fresh fruits and vegetables has been growing at 4% to 30% per year (depending upon the crop selected). This is primarily a result of three factors: expanded consumer demand, the year round availability of fresh fruits and vegetables and the expansion of the fresh produce sections of grocery stores, supermarkets and food warehouses.

The most rapid growth is occurring in specialty fruits and vegetables - endives, fresh spices, star fruits, bibb lettuce, etc. - versus tomatoes, head lettuce, carrots, etc.. Retailers compete to attract customers by having a competitive selection of fresh fruits and vegetables from nearby farms (for better flavor) as well as, exotic (or out of season) locations.

This trend is expected to continue given the rising health consciousness of the American public. A.D. Little, the Boston consulting firm believes "U.S. food shoppers will revert to the European mode of making smaller, more frequent purchases, largely of fresh foods to be eaten at home."

Minnesota has been in the forefront of this trend with the upscale stores, Lund's and Byerly's, as well as, the new warehouse stores, Cub and Rainbow, offering a growing selection of fresh fruits and vegetables. Further, the location of the headquarters for large grocery wholesalers (Super Valu, Red Owl, and Nash Finch) in the State offers unique opportunities to capitalize on this trend.

Markets for growers here in the State range from direct sale roadside stands, to farmers' markets, to sophisticated grocery chains. Fresh vegetable season is short, so most fruit and vegetables consumed in the State for 7-9 months per year are from outside Minnesota. Products range from asparagus to turnips, many of which can be grown here. Market size is over \$400 million in Minnesota and several billion dollars nationally.

Nevertheless, Minnesota farmers do not get a large share of this market even during the growing season because they do not properly handle the vegetables after they are harvested. Field heat must be removed quickly from the crops once they are harvested or they will spoil too quickly for stores and consumers.

Growers in other states make extensive use of hydrocoolers, proper storage facilities and handling techniques to gain market acceptance and premium prices.

Specialty Cheeses

Consumption of specialty cheeses in the United States has been growing at a rate of 5% to 20% per year, depending upon the type of cheese, during the past five years. These cheeses are typically premium products which command a higher price because of being imported, having higher production costs, or having smaller production "runs". Many of these cheeses are not widely available except in selected geographic markets because of limited distribution and a requirement to be near the ethnic group which consumes/produces the cheese.

Retailers now are competing to attract customers by having not only competitive prices but competitive selection of the latest foods and fads available/ Minnesota being a headquarters for three of the largest food wholesaling firms in the U.S. is often a starting point for purchase and sale of these premium products.

New control technology and wider availability of information about production of these cheese gives Minnesota an opportunity to nurture a number of small scale producers which may be able to grow rapidly if their products succeed.

Soft cheese products, while widely consumed in Europe are not well known in the U.S. These products include some cow, sheep and goat cheeses not available in the U.S. from U.S. manufacturers. The market for these products is national as well as regional through area food distributors. The availability of these products is limited because traditional American cheeses are hard cheeses like cheddar, Swiss, American and Monterey Jack.

Dollar volume of these cheeses is \$300 Million per year. The largest factor in the U.S. soft cheese business is Bongrain, SA, a French firm whose sales in the U.S. totaled \$98 million during 1984 (up over 18% from 1983). The business is fragmented because many distributors operate on a regional basis, like Olfisco of Minneapolis.

Minnesota has the attributes/assets needed. An extensive industry which can be used by small producers for limited runs of products. Skilled dairy technicians are available. Marketing companies in Minnesota are available to producers. Technology does not give Minnesota an edge in production.

Frozen Dessert Specialties

In recent years American consumers have turned their attention to a variety of frozen dessert products, diversifying away from traditional supermarket varieties. In response to this, manufacturers have developed many types of gourmet ice creams, frozen custards, yogurts, cheesecakes and non-dairy frozen desserts.

Gourmet Ice Cream

Lead by such firms as Haagen Dazs, now owned by Minnesota's Pillsbury Company, the gourmet ice cream industry has developed into a fierce ground for competition.

Consumers spend \$3.7 billion dollars a year on ice cream. This consumption is expected to increase steadily by about 4% per year or \$5.2 billion by 1996. Several firms besides Haagen Dazs have stepped up marketing efforts to ensure a piece of the action. Firms such as Frusen Gladje (owned by Dart-Kraft), Great Midwestern Ice Cream (Iowa based), Ben and Jerry's (Vermont) and Edy's (California) have accounted for almost \$300 million in sales. The push from these firms has been to develop a brand of ice cream that is rich and very distinctive tasting, as if homemade, but yet available in local grocery stores.

Ice Cream and Custard Retailers

The alternative to grocery store gourmet ice cream is ice cream shop varieties. The emphasis has shifted to provide home made and make-your-own-flavor types. They provide consumers with a wide variety of flavors and styles and have proven to be successful in local markets.

These typically sole proprietorship businesses don't yield multi-million dollar sales figures as their corporate counterparts do, but they succeed in providing a healthy income for their owners.

One such store, which offered "make-your-own" flavors grossed \$138,000 in its first year of business. Another earned \$144,000 in its first year of business - against an initial start up cost of \$50,000. Two frozen custard shops have now opened in the Minneapolis area. These shops are popular in Missouri and Wisconsin. Nationally frozen custard is a \$300 million market.

Beyond the retail sales these businesses enjoy, many local restaurants and hotels will purchase the ingredients and recipes or even the finished product in volume. They do so citing the homemade flavor offered and the good response offered by the patrons.

Other Frozen Dessert Specialties

The largest selling dessert (beyond ice cream) is no longer apple pie, but cheese cake. Margaret Baker Cheese Cake, owned by Serveez Foods of Burnsville, has captured the largest market share locally among restaurants and grocery stores. Sara Lee represents the only national brand of frozen cheese cake. Margaret Baker outsells Sara Lee in the markets where brands compete.

The market for food service and retail cheesecake is estimated at \$100-150 million per year. The market for pies, cakes, and other items is larger. New entrants with new products among small companies thus have substantial and ongoing potentials in local, regional and national markets. Large firms must have large markets before they will consider spending their cost of entry. Small firms can enter, explore and get adequate returns from much lower investment. They can also develop small markets into large ones as happened with Haagen Dazs.

Genetic Crop Development

The technology of improving crop varieties via genetic engineering is an industry that has potential for far-reaching effects in the state of Minnesota, both in the agriculture and business sector.

Currently Biotechnology is in its infancy, with approximately 100 start-up firms and many large established companies operating across the nation. Many researchers suggest large scale commercialization is fifteen to twenty years away. When it does take hold - around the year 2000, the value of hybrid corn seed crop alone will be worth 2-6 billion dollars annually. There will be even greater opportunities among high value crops and related seed production.

Biotechnology presents a solid opportunity to Minnesota farms and business because its aim is to improve quality and increase the yields of currently grown commercial crop varieties. There are several initiatives being developed in Minnesota to pursue these opportunities.

Molecular Genetics of Minnetonka, Minnesota is one of the firms leading the industry of gene splicing. They have developed a corn hybrid that is damage resistant and nutritionally enhanced.

While Minnesota does not lag behind other states at this time, the biotechnology industries are becoming very competitive. Other states and countries have firms which have received large research and development funds to develop new products; for example 24 firms in Massachusetts have received funds to develop new programs in excess of \$500 million to explore biotechnology.

Microwavable Products and Packaging

Due to changing American eating habits, food distribution and merchandising methods have undergone substantial transitional changes, so too has the demand for new and innovative prepared foods and packaging techniques. With the expanding use of microwave and convection ovens, packages have become more than containers; the packages and contents are becoming food products. Consumers are demanding from manufacturers rigid and flexible barrier containers able to withstand retorting conditions or the temperature extremes of going from the freezer to the oven or microwave oven. Consumers are beginning to shy away from breakable glass jars and showing increasing interest in durable, safe, squeeze type flasks for foods such as ketchup, syrup and jellies. Households in which both parents work and are short on time, are continually looking for convenience and requiring higher quality (including safety) standards. In many instances when innovative packaging techniques are available, shoppers are willing to pay a premium for the extra freshness, taste and convenience.

Microwavable food products and packaging use those plastics or specially coated metals that are able to withstand temperature extremes: from the freezer to the convection or microwave oven. This type of packaging product is most often applied to prepared entrees and frozen dinners.

According to Business Trend Analysts, U.S. retail sales of frozen dinners and entrees are projected to expand from \$4.52 billion in 1985 to \$18.52 billion in 1994. This projection coupled with the estimate that shows approximately 40% of U.S. homes now own a microwave oven (and an estimate this number will grow to 70% by 1990) sketch a bright outlook for the dual ovenable plastics.

Minnesota's position in entering the microwave product and packaging markets is potentially quite strong, because it has a knowledgeable/people base, a group of large companies whose sales of microwavable foods is growing, and innovative wholesalers and retailers.

Summary

These are only a few examples of the hundreds of opportunities to diversify crops and food/agri-products produced here in the State. The important task to accomplish is to inform farmers and small scale producers about the potential for diversification opportunities in general. The Midwest Technology Development Institute has organized some proposals for joint efforts to inform people in several Midwest states about similar opportunities. Minnesota needs its own mechanism because many of the opportunities fit small market niches, so the first few participants gain tremendous profit and production advantages.

The State should look to using its University, college and extension systems as "informers" to keep Minnesota producers aware of trends and opportunities for such crops and products as well as means and methods of production.

FINANCING AGRICULTURAL BUSINESS OPPORTUNITIES IN MINNESOTA

The goals of financing agri-business opportunities for diversification into high value agricultural products in Minnesota would include the following:

- o Assist in meeting the long and short term financing needs of a wide range of businesses and individuals creating/expanding in Minnesota
- o Creating jobs for Minnesotans
- o Creating assets and infrastructure to take advantage of agri-business opportunities in the State for high value agricultural products
- o Funding all the layers of agri-business opportunities from growing, to harvesting, to handling, to processing, to packaging, to shipping and storing
- o Competing with other States and localities to create these opportunities here before they are established elsewhere
- o Encouraging other institutions as well as the State to take the risks necessary to expand existing or establish new opportunities in Minnesota

What types of projects or investments would fit these goals:

- o New crops or processing opportunities for which there are no established markets or businesses.
- o Expansion of existing facilities as required by businesses currently located in Minnesota or those seeking to expand given Minnesota's competitive advantage in production, location or infrastructure.
- o Replacement of existing assets which for competitive reasons leave Minnesota producers at a competitive disadvantage.
- o Addition of pollution control or other assets required by new regulation which create competitive disadvantages for Minnesota firms or growers.
- o Addition of new or expansion of existing channels of distribution where possible to sell more crops/products/produce.

The following are examples of a range of financing programs which might meet the goals outlined above. Most are modeled after programs currently operating in other states.

- o Ag-Business Development Corporation
A publicly owned and financed corporation designed for pooling of loan or equity funds or for participating in loan or equity funding of deserving business ventures. Stock would be sold to individuals, banks, insurance companies, manufacturers, utilities and others with strategic interests in the economic development of Minnesota. a broad ownership should be sought. Nebraska has a similar program which can be examined and serve as an example where appropriate.
If this program is to be implemented, funding of \$5 to \$20 million would be adequate to begin the program.
- o Ag-Resource Bonding Authority
This existing program was developed to help existing firms expand their processing facilities using lower cost debt financing (guaranteed by the State) than would be available from other sources. Changes in Federal tax law and the limits of the program to fund only real estate and equipment may limit the future of this program. If this is true its assets might be transfered to another program.
- o Growing Capital Loan Program
To develop adequate supplies of certain crops, a growers finance program might be organized which would help companies secure adequate supplies of raw materials for processing. This could be coordinated with farmers involved with the Reinvest in Minnesota (RIM) program, who wish to grow alternate crops on set aside acres and gather related data for establishing future commercial production of selected crops in Minnesota. If implemented, funding for this program should be \$5 to \$10 million for the first few years of the program until enough raw material is available for processing at which time a small sales tax should be collected to expand the efforts continuously to other crops and products.
- o Risk Fund
This fund would encourage the development of new ideas and projects related to crops, production and processing through grants and equity investments in early stage projects. It could be organized along the lines of the successful Small Business Innovation Research Program organized by the Federal government with "graduates" of the initial grants/investments becoming eligible for additional funds from other programs or venture funds from a joint effort with selected venture capital firms.
If implemented, funding should be in the \$1 to \$3 million range with equity positions held by the State to be sold back to the entrepreneurs or others with proceeds to be used for new investments.

- o **Distribution Fund**
A fund to aid development of new channels of distribution i.e. encourage more direct sales by farmers/producers or better access to existing channels by assisting producers who need to meet new standards for product quality or for regularity of delivery for actual or potential customers.
If implemented, funding should be in the \$200,000 to \$500,000 range.
- o **Minnesota Grown Promotional Fund**
A program to encourage commodity and specialty crop associations to create their own individual promotion programs based upon the Minnesota Grown logo. Funding would be allocated in matching grants or participation incentive funds. The program would include high quality fresh and processed Minnesota products.
If implemented, funding should be in the \$250,000 to \$500,000 range.

UNDERSTANDING MARKETS AND CUSTOMERS
OF A DIVERSIFIED AND HIGH VALUE MINNESOTA AGRICULTURE

Marketing high value crops and products of a diversified agriculture is quite different from commodity crop marketing which depends so heavily upon government support and world prices. But it follows the same steps and efforts a good, common sense marketing program would in any large or small company which has created and produced a product for sale.

Really what marketing is is getting the Minnesota crops/products/produce sold and putting cash in State residents'/farmers' pockets as quickly as possible.

Before describing the steps and approaches to market definition a few short aphorisms are appropriate here:

- o Products do not sell themselves regardless of need -- people sell products and their own abilities to grow, produce, package and ship them on a timely and acceptable basis.
- o Customers pay cash (or credit) markets do not! Markets provide the general information needed to determine how, what, when and where to sell. But, personal contact with customers closes initial sales and keeps satisfied customers returning for repeat purchases.
- o Change occurs constantly and creates a steady source of new opportunities and problems in creating new products and reaching your customers.
- o Government participation is generally considered interference rather than valuable assistance.

Given these factors, how can the State or a public/private partnership help farmers, producers and processors develop markets for State produce and products. The normal State government functions have real value in preparing or assisting marketing efforts in the following areas:

- o assurance to potential customers of quality/safety through regulatory efforts
- o reliable and low cost of delivery/transportation through building a good transportation network with easy access throughout the State
- o central promotion of State products and produce through joint venture efforts like the Minnesota Grown promotional efforts

Are there other areas with which the State can be helpful? There probably are but one must match the functions of marketing with the stages for marketing ag-related products:

Marketing Functions:

Product	Promotion
Pricing	Placement

Agricultural Product Stages:

Growing	Handling
Production	Storing
Harvesting	Processing

Each crop and product will thus probably be unique in its requirements for service and its customer base.

To be of real assistance the State must set some screening questions and/or criteria by which it can choose how to participate in or help the marketing process. These criteria might include the following:

1. What crop, product or service is being sold?
2. What is the general character of the product's market?
3. Who is or will be buying it? (character of buyers)
4. Who are the competitors? and how do they compete
5. What is the size of the Market?
6. What is growth potential?
7. How to persuade customers to buy and keep buying from Minnesota producers?
8. How are Minnesotans going to price the product given sometimes contradictory requirements for criteria of profitability? competition? and customer value?
9. Follow-up and monitoring of customers for Minnesota's high value agricultural products
10. How does distribution affect reaching customers? and Minnesotans' ability to get cash for their crop or product sales?

The value of all this information is creating the ability of Minnesota producers to turn an idea into cash. This is done in two stages. The first cash coming in is the required risk capital -- to develop an idea, crop or product in the form of time given to an idea, investment from one's own saving or family and friends or loans from a bank. The sponsors must convince investors and lenders that they know how to make money from the market. They and any sponsoring agency will need to be able to demonstrate an in depth knowledge of the market opportunity by answering the above questions.

Second, the sponsors and the State must know to whom the sponsor is selling and what the payment process is (cash? 30 days? 120 days?). This will be especially important in determining the sales strategy, amount of working capital needed, and how any new crop or product should be introduced. Fast payments or prepayments will mean that producers need little if any capital to introduce their crop or product. Slow payments require that producers seek to fund sales efforts (through short term loans to customers) as well as financing the firm's employees' wages, raw materials and manufacturing equipment.

In completing these tasks how much should producers or the State spend on market definition and research? It depends upon the amount of money one must spend to get the crop or product out to the customer or the "credibility" producers of the State feel may be required by banks or customers of the product. A range of spending is described below:

Zero Cost		Many thousands of Dollars
[=====]		
Your self	Inform Mpls	A.D. Little
U of M	Library \$50/hr	SRI
St. Thomas	Consultants \$25-	Campbell Mithun
Family	\$100/hr	Big Eight Actg
Calls to companies	Dues and subscrip-	Large Law Firms
in other cities	tions to trade	
Yellow Pages	publications	
Use for services	Use when investing	Use when spending
when one can fund	some money from other	large amounts of
the idea him or her-	people who need third	other peoples
self or for	party endorsement of	money to help
preliminary con-	ideas-- or when one	show one has
clusions	needs new industry	done his/her
	contacts to enter	homework
	markets	

How can the State help in these areas?

- o Funding development of or access to information and data bases for prospective producers, such as a fruit and vegetable price report during Minnesota growing seasons.
- o Funding studies of the markets -- State funding of feasibility studies should be continued.
- o Educating people about how to prepare this information -- many sophisticated producers need help in preparing detailed and sophisticated marketing and financial reports being required by financial institutions seeking assurances of more than adequate cash flow from a project.
- o Promoting Minnesota products on a joint venture basis can increase the market sizes for high value agricultural products and raise the returns for all State producers.

EDUCATION AND RESEARCH FOR A DIVERSIFIED AGRICULTURE

Minnesota's rural economy continues to rely on commodity related crops and products without planning for new, more profitable high value crops and agricultural products. The lifeblood of consumer and industrial firms is new products. Over 20% of General Mills sales are from products which the company did not produce five years ago. Minnesota must encourage this sort of activity and responsiveness among its institutions which serve rural and agricultural economies.

Below suggested programs and activities for important State agencies are described.

University Center for High Value Agricultural Crops/Products

The University of Minnesota is proposing to establish a Center as a joint venture of the University and private industry. The Center would be involved in the following activities:

- New crop and product research and development
- Information dissemination
- An information data bank available to farmers and businesses
- Economic analysis
- Equipment and process technology development

Examples of similar efforts elsewhere include:

- o The University of Arizona maintains a 1,000 acre experiment farm used for research purposes which must make a profit to support itself from its development of new crops and/or growing techniques which it must turn over to state farmers once development is completed.
- o Rodale Research Farm is a privately operated farm which does research on new crops and organic farming in Pennsylvania. Rodale has a number of publications which it uses to disseminate information on its research.

Minnesota Extension Service

The Extension Service should expand its technical assistance programs to include more resources devoted to high value agricultural crops and related processing. The service should offer help in growing, marketing and management for the State's farmers wishing to enter these markets. Resources are limited given Federal deficits so the service might consider:

- o Hiring trained specialists to be available to serve multi-county areas which have a high demand for technical assistance on alternate crops and small scale processing. These should be in addition to the regular staff. They should also be available for scheduled travel around the State to help farmers in other regions.
- o Establish an 800 toll free telephone number for easy access to information and to act as an answering service for trained experts needed by growers and processors around the State.

AVTI and Regional College Programs

Programs should be offered on high value crops, small scale processing, marketing and management techniques. These institutions should also offer technical assistance in these same areas.

Specialized Tasks for State and University Agencies

University Arboretum (or selected experiment stations) -- could be a site for a demonstration and teaching farm for high value crop production. The facility could also demonstrate how year round cash flow could be developed through proper crop selection and product development techniques.

Governor's Rural Development Council should continue to fund research and educational programs on alternate/specialty crop production and marketing.

Midwest Technology Development Institute has proposed innovative, cooperative efforts about cost cutting and information exchange. Their programs however should be more directed toward high value agricultural products which offer higher returns for the invested dollar.

Minnesota Department of Agriculture - Organize a separate office of the Department which would devote its attention to high value agricultural products.

Clearinghouse - to collect all appropriate licensing and regulatory information needed by growers and processors of high value agricultural products. The clearinghouse would also act as an ombudsman to simplify and accelerate the process of commercializing high value agricultural products.

High value agricultural crops and agri-processing have different requirements for development and commercialization than traditional commodity crops or businesses. A program needs to be implemented which will educate bankers, technical assistance providers, growers, processors and entrepreneurs interested in developing these opportunities.

Leadership Programs

Education awards should be established in the areas of marketing and new crop and product development. Most awards reward higher production of commodity crops of which the State already produces too much. Awards for marketing and product development may help change attitudes about alternate crops.

Innovative Farmer Networks

Networks of innovative farmers should be organized so that innovations of farmers can be promoted and shared. Information intensive farming innovations which can reduce on-farm costs and increase on-farm value added should be particularly emphasized. A variety of pilot programs, including support for innovative on-farm small business ventures, should be established to find the best ways to promote, share and evaluate these farm-based innovations. The advantage farmers have of inherently being required to manage their operation as whole farms without artificial barriers should be developed. Such networks can serve to inform agri-businesses and research institutions about farmers' needs as well.

Test Kitchens

One of the problems for persons interested in small-scale food processing is the high costs associated with food research and testing which must be done in an FDA approved kitchen. The kitchens in schools and institutions are FDA approved and arrangements could be made between businesses and schools to use their kitchen facilities during vacations or on weekends. Also some schools have been closed due to reduced enrollment and, as in the case of Minnetonka Jr. High, have been used as business incubators for food processors allowing them to use the kitchens and reducing their start up costs. Establish a network of these facilities statewide.

SUGGESTED READING

The sources used in developing this report were very numerous and widely varied. Rather than trying to itemize all of them, a short annotated bibliography is given below for the most important ones available.

Regarding High Value Agricultural Products:

"A Review of U.S. Competitiveness in Agricultural Trade," Congressional Office of Technology Assessment, October, 1986. Provides an excellent overview of U.S. position in high value crops and related policies.

"Expanding the U.S. Share of High Value Agricultural Exports," National Food Review, Summer 1985.

Policy Report from Minnesota Department of Agriculture - 1987

Regarding Activities in Other States:

"Agri-Marketing in Massachusetts, Programs and Policies, 1976-1986," Massachusetts Department of Food and Agriculture, 1986.

Agricultural Statistics and Annual Reports from Arizona, California, Florida, Michigan, New Jersey and Vermont. These states have been among the most successful in developing alternative crops and value added processing operations. They also show the breadth of information and statistics organized by these states to promote and support these crops.

State of Iowa initiatives for establishing alternative crops and processing facilities in Iowa during the next two years. Iowa has adopted several initiatives to establish a more diversified agriculture. Contact the Minnesota Governor's Rural Development Council for copies and a summary of these efforts.

Adapt 100, Ag Diversification Adds Profit Today, 100 Ideas for Farmers, Successful Farming, December 2-3, 1986, Des Moines, Iowa.

"Going to Market: The New Aggressiveness in State Domestic Agricultural Marketing," Nothdurft, William E., October 1986, The Council of State Policy and Planning Agencies.

Magazines:

Regarding new ventures the following publications identify and write about new businesses almost before they become successful; "Entrepreneur," "Rural Enterprise," and "The Land." These are excellent for tracking opportunities which are/may be working in other areas of the country for adoption to Minnesota.

After rural businesses are established "Inc." and "Venture" magazines are excellent sources of information about how business opportunities were developed.

Past Reports on Minnesota Agriculture:

Surprisingly, current problems and opportunities in Minnesota's agricultural sector seem very similar to those that have happened in the past. Reading past reports gives readers an interesting perspective on current problems. Among the best reports are: "Agricultural Activities in Minnesota, Production, Processing and Marketing," for the Department of Economic Development, 1973; and "Minnesota Agribusiness Development Program," for the Department of Economic Development, 1981.

Miscellaneous Sources:

A university related program just being organized by James Bartz and Luther Waters is the Center for Alternative Crops and Products, for evaluation and promotion of alternative crops, product development ideas and projects.

James Southerland and a group of consultants has formed a firm called Specrotech which has helped develop broader markets for a range of Minnesota crops, like dry edible beans. The firm is also working with a computerized network to establish a national market system for horticultural crops.

Reading the labels of products on grocery and specialty store shelves and talking with store buyers is also extremely valuable, because one can identify products which can be made in Minnesota or out of Minnesota grown crops. One can also get a feel for changes in consumer trends leading to new opportunities available for State rural development. The best stores and related buyers include Byerly's, Rainbow, Cub, Lunds, William Sonoma, Super Valu, and Nash Finch.

Annual reports and brokerage industry analyses of food processing companies/industries headquartered or centered in Minnesota. The largest centralized source is the Minnesota Investment Board. The Department of Energy and Economic Development has also begun such a file started as part of the year long project completed by the author of this report.

(Most of this section of this report has come from "Minnesota Agricultural Opportunities," Thomas von Kuster & Associates, completed for the Department of Energy and Economic Development, June, 1986)