

Developing Alternatives for Small-Farm Production, Processing and Marketing of Specialized Crops in Northwest Montana

Executive Summary

The project's overall goal was to identify new market opportunities for alternative crops that can be grown on smaller, family farms in northwest Montana and to develop an infrastructure that links production, processing and marketing for those crops. In addition the project team was to focus on the development of secure production and processing systems to assure regionally produced foods meet quality and safety concerns of today's consumers. Through the activities funded under the grant, the further outcome of the grant was to "establish a pilot program in Northwest Montana that, if successful, could be replicated in other rural areas with similar farm demographics and potential for crop diversification".

Funds were directed at four areas that would better define the process of incubating alternative/specialty crop production and marketing enterprises: Establishing a market evaluation protocol and defining a strategy for testing and entering new markets, identifying food safety concerns and ways in which they can be addressed within the production environment, developing alternative distribution channels and developing educational materials linking programs to producers.

The project team felt all of the goals of the grant were accomplished; some more extensively than originally defined; and some to a lesser degree simply because the results cannot be fully realized within one year's time. By forming various partnerships with other organizations that are focused on producing new marketing opportunities for agriculture in Montana, the team was able to expand the focus of many of their objectives.

One of the most valuable resources produced by the project group was a distilled model that provides means and support to producers primarily engaged in the development of value-added enterprises. Through group cooperation, the model has shown its capability to adapt on a statewide basis to help producers research new marketing opportunities.

Other accomplishments recorded by the project team included: developing an infrastructure that will aid in processing and marketing small farm production, improving customer and producer knowledge of state/federal safety requirements and managing food allergens, creating new marketing channels that include various community and state institutions, as well as, addressing transportation issues that will accompany these new channels, and finally, working with cooperative and extension groups to evaluate production practices for alternative crops in Northwestern Montana.

By coordinating with producers, consumers, communities and agriculture related groups, the working team has formed a foundation that everyone involved will be able to build from in the future.

Developing Alternatives for Small-Farm Production, Processing and Marketing of Specialized Crops in Northwest Montana

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DEVELOPING ALTERNATIVES FOR SMALL-FARM PRODUCTION, PROCESSING AND MARKETING OF SPECIALIZED CROPS IN NORTHWEST MONTANA

Lake County Community Development Corporation (LCCDC) was the subrecipient of a Federal-State Marketing Improvement grant awarded to the Montana Department of Agriculture effective September 1 2002. The overall goal of the project was to identify new market opportunities for alternative crops that can be productively grown on smaller, family farms that populate northwest Montana and to develop an infrastructure that links production, processing and marketing for those crops. In addition, we were to focus on the development of production and processing systems that assure our regionally produced foods meet quality and safety concerns of today's consumers. Through the activities funded under the grant, the further outcome of the grant was to "establish a pilot program in Northwest Montana that if successful, can be replicated in other rural areas with similar farm demographics and potential for crop diversification." While refined through specific goals and activities, the overall use of funds was directed to four areas that would better define the process of systematically and successfully incubating agri-business in Montana:

- Establishing a market evaluation protocol and define a strategy for testing and entering new markets
- Identifying food safety concerns and ways in which they can be addressed within the production environment
- Developing alternative distribution channels and
- Developing educational materials linking programs to producers

LCCDC's Mission Mountain Market is an economic development program created to develop appropriate infrastructure and support for the small farmer and specialty food businesses in western Montana. The past year has been successful in expanding the benefits of the project to numerous clients and completing the goals and objectives of the 2002-2003 FSMIP project. Our goals for the grant were accomplished; some more extensively than originally defined; and some to a lesser degree simply because the results cannot be fully realized within a year's time. The following outlines each of the projected goals and its associated activities, accomplishments and results as they apply to the four major areas listed above. We have moved our overall project strategies closer to our goal of establishing agriculture as a major economic sector with flourishing family farms that have cost-effective practices in the production of high value crops and livestock serving national and global markets.

Goal 1- Recapture value back to the producer by developing infrastructure for adding value to our small farm production

- **Provide infrastructure for the test production and commercialization of value added alternative crops and products**
- **Develop innovative methodology of adding value to our local production**
- **Collaborate with the MSU College of Agriculture Bio Science program**

LCCDC continues to develop and refine the type of infrastructure needed for test production and commercialization of products which can add value to our small farm production in western Montana as a means of assisting growers reach new markets for their goods and services. While no equipment or hard infrastructure was completed with FSMIP funds, we have been able to better evaluate the types of equipment and processes that will best serve the needs of local producers.

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"Infrastructure", however also relates to the capacity of staff and resource partners that can assist in product development, food science, quality control, costing, accessing materials, etc. By bringing in Montana Manufacturing Extension Service to evaluate processing lines and establishing product costing models for small-scale manufacturing, we can help the client better determine whether or not they can produce a viable, cost effective product. With their help, and those of other industry experts that have come in to evaluate the plant and equipment, we have found that with minimal modifications to certain equipment we can approach product ideas with the attitude of "how can we do this" not, "we can't do this".

Prior relationships with the Biobased Institute (the Bioscience program at Montana State University) were based entirely on an Indian Rice Grass Flour project ("Amazing Grains") that we began work with 3 years ago, and continue to incubate in the Center. We have now leveraged that singular activity into making both the Biobased Institute and the Montana Agriculture Research Centers in western Montana a critical part of our resource team. Any product that is brought to our attention that has value-added market potential, either through making changes to its field production (to increase yields, convert to organic or low-input production or, in one case, to grow a specialized barley for micro-breweries) or through processing (local, native raised beef to dried product) is sent through the Biobased Institute for evaluation. Through establishing relationships with the Institute, we have assisted the Native Beef Cooperative in fully developing an new dried meat product using traditional herbs for flavor, and through staff training at the Iowa Meat Institute (provided under another grant) we are able to walk this very fledgling group, wanting hands-on control over their product, through each step of production, with fully approved USDA labeling and HACCP planning. By growing and solidifying our relationships with Washington State University's food science program (there is no qualified food science program at MSU at this time), our staff has helped producers send in various products for evaluation and formula upgrades that has resulted in saving several clients from making costly mistakes via the trial and error method of product development (i.e. NOT using fresh onions in a bottled product).

While many of the activities listed include clients and processes that have been utilizing the Center for several years, until now there has been little attempt to evaluate their progress and costs and refine the incubator infrastructure and resources to better assist them in growing a viable, profitable business rather than just helping them produce a product. The following activities contributed to honing and refining the availability of the good infrastructure necessary to bringing new products to market.

- 1) Professionals were brought in to help us gain additional processing efficiencies in the Mission Mountain Market Processing Facility. A complete revision of the pasteurization and bottling line has resulted in a more efficient processing of cherry and apple cider in the facility. The final product has demonstrated a longer shelf life and higher product quality. A demand for the cider products has been established and products were distributed throughout western and central Montana
- 2) An Instant Quick Freeze (IQF) unit and production line has been purchased and will be installed this spring to assist local growers and members of the Western Montana Growers Cooperative respond to markets that have been identified by local institutions (including schools, universities, senior centers) for fresh, frozen foods that can be utilized well past the growing season. This unit provides infrastructure that will assist our small meat, vegetable

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and fruit growers develop added-value products in a fully secured processing facility, while retaining ownership (and increased values) from production to market.

- 3) A full 50x50 warehouse has been completed for storage available to users and production materials and allows for separation of organic and non-organic goods.
- 4) The facility is now BATF (Bureau of Alcohol, Tobacco & Firearms) approved for the processing of local wines.
- 5) Montana Manufacturing Extension was brought in to help Amazing Grains Cooperative in evaluating their production needs and product costs. They were further assisted in researching and purchasing a larger scale flourmill and blending equipment to help reduce costs in this initial product development state so that they can begin to meet the growing marketplace for their Indian ricegrass gluten-free flour. Our business development team is helping them with capitalization of their business and they are expected to grow their business to the point of moving their milling and packing production to their own facility within 3 years, with product and business development support continuing at the Mission Mountain Market.
- 6) Utilizing FSMIP funds, a protocol was established for handling organic products within the facility and it has subsequently been certified Organic through the Montana Department of Agriculture. Innovation is the key to developing and marketing value-added food products. This opens the door for the development of an entirely new line of value-added production not now being tapped in Montana. The first organic product processed was an organic cider for Dupuis Farms, a certified organic apple farm, all of which sold within a week of being manufactured.

Using matching funds, the Northwest Agriculture Research Center (NARC)/Biobased Institute completed an assessment of the state's research center program, identifying problems, critical outreach issues and infrastructure needs and summarized the primary research being done at each center. This information has been disseminated to other development organizations in the state partnering with their agriculture research centers to help provide technical assistance to producer groups developing value-added enterprises. Five regional partnerships have been formed in the state as a result of the model relationship established between the NARC and LCCDC with the goal of assuring value-added agriculture become part of mainstream economic development in Montana. Further, the NARC then began work to establish growing protocols for Indian Rice Grass and Timothy for use in gluten-free flours for the Amazing Grains Cooperative and the Bitterroot ARC is currently working with local vegetable growers to establish protocols related to increased yields in small-farm production using fewer inputs and sustainable growing practices.

The above activities have confirmed the need for small-scale, shared-use processing in our farming community and the necessity of a Mission Mountain Market-type center which helps develop local infrastructure and technical support to assist producers in adding value to their production and specialty food businesses to develop products for niche markets. Local producers need assistance in defining the needs and locating innovative technology that can meet the conditions for lower-volume processing. By establishing firm, committed resource partnerships (such as with MSU's Biobased Institute), developing and maintaining a high degree of technical expertise within the staff, and making low-volume production facilities available for testing and commercializing new products, we have clearly demonstrated that we can successfully assist producers seeking to develop innovative methodologies and products.

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Goal 2 -Develop a program that will assist processors and producers in meeting federal and state safety requirements and addressing consumer quality concerns

- **Implement agronomic practices that insure a safe and secure food supply**
- **Assist processors in meeting food safety requirements imposed by USDA, FDA, and other regulatory agencies**
- **Assist processors in managing food allergens**

The Mission Mountain Market has aggressively researched and pursued a foundation of knowledge and professional development in order to remain current in all areas of federal and state food safety requirements; addressing and responding to any known consumer concerns about the safety of food products being developed, manufactured and/or marketed by businesses using the Center. The facility was registered, as required under the Bio-terrorism Act with the Federal Food and Drug Administration, and the Facility Manager is regularly updated relative to new regulations for food production and safety relating to Homeland Security. Applicable information is passed on to businesses and producers assisted at the center to be sure that each is knowledgeable and informed, whether or not they actually manufacture a product at the center. We have advised all food businesses to add a section to their business plans relative to dealing with food security issues.

The stated task of "implementing agronomic practices that insure a safe and secure food supply" was overly ambitious to even consider in a one-year time frame, and was not accomplished especially since no specific problem areas were identified. What was accomplished, however, was an important first step – a line of communication between producers, technical assistance providers (staff and resource partners) and research centers that will lead to a process by which such practices can be implemented. In addition to gathering food security information emanating from the federal government relative to production requirements that may have to be met in the field in order to comply with new regulations, we are working on a formal protocol through which that information can be disseminated to both producers and the Agriculture Research Centers (Biobased Institute) to determine if new agronomic practices need to be developed in response.

Steps were also taken to identify perceived problems of food security by the consumers so that we could determine whether new "agronomic practices" were needed. A survey was conducted with 187 consumers to identify concerns related to food security, agronomic practices related to food purchases and their perspective on buying local. The results of the survey concluded that Montana consumers:

- 1) Are somewhat (39%) or very (34%) concerned about the safety of the food they buy
- 2) State that locally grown food is safer (62%) and healthier (54%)
- 3) Felt that it was very important (53%) or somewhat important (40%) to have their food come from US farms and ranches.
- 4) Felt it was somewhat important (50%) to have their food come from their local area, while 28% felt it was very important.

Nationally, in the area of agronomic practices, consumers agreed with the statement "I would be willing to pay more for food grown on farms using good environmental practices" (81% - "Food From Our Changing World"- a nation-wide survey). This does not necessarily infer a change in agronomic practices is required, but does become a potential marketing tool for those already utilizing organic, low-input or other so-called "sustainable" methods of farming or ranching or

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participating in buy-local campaigns. For those farms wishing to change their agronomic practices in order to increase their market potential, there needs to be good information on how to make such changes. To this end, we have entered into discussions with the Biobased Institute/Agriculture Research Stations as to how they could establish plots at each of the centers dedicated to organics or other low-input agronomics in order to better assist local farms wanting to change or diversify their production.

The top two areas of food safety concern were contamination from improper handling, and unclean food carrying bacteria and/or other disease organisms. While the Center has always required food sanitation courses be completed by any client using the facility and assisted clients with process control authorities and/or HACCP plans, the entire program has been beefed up to assure both the client and staff are fully immersed in, and aware of potential contamination issues. New protocols/check-off lists have been established for each product in the facility and clients and staff alike are schooled in quality control. As a result, for the first time, we have not received ONE product return or complaint about food processed at the center in 9 months. We are learning to systemize what we have learned, and it is ongoing. One of the major lessons learned is that food security is a dynamic, ever changing program and process and we must be in a position to assist clients in responding to change as it occurs. An essential part of the program is to assist the client in developing process and quality control in their production. To insure that the highest-level program can be offered, Mission Mountain Market has expanded resources as follows:

- 1) The facility manager, already certified in HACCP planning, completed additional training in meat processing, avoiding food allergens in production (and associated labeling issues) and sanitation and quality control protocols for juicing operations. All permanent processing staff has also completed formal HACCP training.
- 2) The Facility Manager meets with USDA inspectors and supervisory personnel weekly to assess and discuss meat processing projects, problems, regulations, etc, rather than simply responding to problems as they occur. This level of communication creates a partnership in program development rather than a relationship simply based on regulatory enforcement.
- 3) Water activity testing equipment was installed for processing smoked meats and two people attended the Iowa State University meat processing school to become better informed relative to developing and producing dried meat products.
- 4) USDA approved a HACCP plan and label that were developed on behalf of Native Agricultural Cooperative (smoked meat product) and the Montana Department of Agriculture Organic Certification Program certified the Mission Mountain Market Processing Facility after completion of a rigorous procedural document.
- 5) Technical Assistance was provided in establishing (or revising) process control authorities and enhanced food safety protocols for: Grandma Hoots (gourmet sauces and chutneys), Flathead Native Agricultural Cooperative, Montana Natural Beef, The Orchard at Flathead Lake, Amazing Grains (gluten free processing), TiPus Chai Teas, Kobel, Philippe BBQ sauces, Big Horn Botanicals herbal teas, Furst Marguerites Mixes, Flathead Winery, Big Sky Tea.

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A major outcome of our focus on establishing food safety protocols, both within this facility and within the psyche of the client base, was in convincing the Flathead Native Agricultural Cooperative, who had determined to make a nitrate-free dried beef product using only traditional herbs and additives for flavor, to actually agree to use preservative nitrates as a matter of consumer safety.

While the consumer survey did not return any specific concerns that could be addressed, it revealed a concern for food safety that will ultimately need to be addressed by small and large producers, both in their production practices and in their marketing outreach. It is very important that these issues be addressed early in the business development phase. Addressing consumer concerns as they surface, along with the need to respond to increased federal regulations relative to food safety and security, will be major forces in how farms, ranches and food processors operate in the future. If we are to help build successful new ventures, those of us providing resources and technical assistance to developing businesses must remain at the forefront of understanding and be ready to help them make such changes both quickly and cost-effectively.

Goal 3 - Create alternative marketing and distribution channels for new and existing small farm production in NW Montana

- Implement a regional specialty crop marketing strategy
- Assess and develop alternative methods of distributing production from the small farm
- Research and assess potential market shifts and opportunities for new crops
- Develop a communication strategy to keep the producer constituency informed

Regional Marketing Strategy: While a specialty food-marketing plan was developed and implemented under a previous FSMIP grant (1999), no marketing strategy had been developed for regional or specialty crops. The region's fresh cherry and certified seed-potato crops have fairly-well defined markets for most of the farm produce; but small farm production has been traditionally sold as a "seasonal" variety through local farmers markets or locally-owned grocery stores. In order to get a handle on what is being produced in the region, a survey was conducted among 27 family farms in Lake and Sanders Counties (**Exhibit 3**) to determine what and how much was being grown and how it was currently marketed. It was discovered that while there is good capacity for production "collectively", farm by farm there is little capacity for adequately supplying fresh produce to major markets, either locally or regionally. Furthermore, produce was being distributed in cooler containers in the back of the family pick-up truck, and their ability to make a delivery was dependent upon the truck being available. Very few producers had any ideas of what to do in order to negotiate a contract with a local retailer or restaurant that might purchase their products.

Seventeen potential market venues were surveyed including buying clubs, restaurants, health food stores, tribal food programs, educational institutions, youth church camps, and a hospital. Of the markets interviewed 94% expressed interest on increasing the amount of produce they purchase locally, if such produce could be delivered on a consistent schedule, packaged as specified. Presently only 1-5% of purchases are known to come directly from farmers because most individual small farmers cannot consistently meet such requirements.

The results of the survey were compiled and presented back to the growers to determine interest in forming a grower's cooperative that would be organized in order to build capacity to better meet market needs (see attached case study for the Western Montana Growers Cooperative – **Exhibit 2**).

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At the same time, Mission Mountain Market staff was invited to partner with the Montana Alternative Energy Organization in a national group formed by Kellogg to develop a prototype marketing campaign for "buy-local" initiatives in rural America ("Food Routes"), out of which was developed a logo and campaign that was modified and adopted for local use (see Power Point Presentation - **Exhibit 4**).

Supported by FSMIP, our market coordinator then worked directly with the fledgling grower's cooperative to implement the buy-local campaign in western Montana AND evaluate other markets the group could potentially address. In addition, cooperative members collaborated to attend farmers markets, committed to collaborating with a new farmer's market sponsored by a local chamber of commerce, are actively recruiting new members throughout western Montana which will help them expand their capacity and many are evaluating value-added products, such as frozen meats and vegetables that will extend their market position into other seasons. In using this model, we assisted local producers (including, but not exclusive to the cooperative members) in developing a relationship with Montana State University's food service program, which has since committed to purchasing 20% of its needs from local sources. This in turn, has led to increased demand from other institutions, in addition to restaurateurs who are embracing the buy-local campaign as a marketing feature. By interviewing and surveying retail establishments we were able to open doors for a newly developed organic apple cider produced by one of the cooperative members and substantially increase distribution of the area's non-organic apple cider.

Other representative activities associated with developing new markets included:

- 1) In collaboration with the Flathead Cherry Growers Cooperative, through a grant they received from the Montana Growth through Agriculture Program, were assisted in researching the potential for value-added cherry products through the development of several value-added product prototypes and conducting a consumer taste survey. The results were shared at the annual meeting of the growers and several cherry producers participated in the production of cherry cider. Flathead Orchard at the Lake, a local cherry grower and entrepreneur, marketed BBQ sauce, dried cherries, cherry jam and dessert topping as a result of the product and market development.
- 2) Conducted a market analysis for fresh, value-added herbal products for a potential client, who will be processing a product at Mission Mountain Market. Twelve different product lines have been identified as having market potential.
- 3) Conducted research on the regulations controlling the marketing of a wine product developed at the Mission Mountain Market.

Alternative Distribution Strategy: A producer survey determined 93% of the producers expressed a need for a refrigerated delivery truck service. The market venue survey determined that 95% of the surveyed marketplaces are purchasing from sources that deliver their product and 60% of the surveyed marketplace expressed a need to have purchases delivered. A cost analysis program for refrigerated truck delivery routes was developed with the assistance of a University of Montana student intern. The program has been used as a tool to determine the cost effectiveness of delivering local growers produce to local markets. In July 2003 a 60-mile round trip distribution route was established from St. Ignatius to Polson to pick up and deliver Western Montana Growers members produce. Later in the season this was expanded to a 150 miles round trip route from Ronan to Missoula and Polson. An additional route was established on a one-time basis to Helena for WMCG

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members, Mission Mountain Market cider and Alternative Energy Resource Organization members. These routes have been evaluated for cost effectiveness and will provide local growers and the cooperative with alternatives to consider as they try to expand into new markets.

What became readily apparent is that cost effectiveness is directly related to volume and the ability to work along established routes. If the truck has to stop at each farm to pick up goods and meet early morning delivery schedules, it is both costly and inefficient. However, by having farms bring their shipments to one or more stopping points along a main route, considerable cost savings and efficiencies can be achieved. We are currently helping to establish possible locations where fresh produce can be delivered by the farmer and cooler-stored for a short period of time for pick-up. A larger (than most) farm operation in southern Lake County has joined the cooperative and is offering both collaborative packaging and cooler space for farms in that area. The Mission Mountain Market will be used for the purpose in mid-Lake County. Expanding delivery east to Helena is currently being considered if enough production can be delivered to cover transportation costs. Also, the growers cooperative is now considering the advantages of purchasing or leasing their own trucks and whether or not they could sell space on the trucks to other growers who may not be members of the cooperative but need a means to deliver to more distant markets.

We do not pretend to believe we have this problem solved – we are just getting our arms around the issues! We know that the reason small producers try so hard to market their products directly is because they cannot competitively sell their products through brokers and receive any type of return. Nor can they distribute through commercial trucking companies and pay the high costs associated with low-volumes and weight. We also found that most buyers that are committed to buying locally produced food items really appreciate the face-to-face contact with an interested and knowledgeable driver/delivery person, and often sales go up when that service is provided. Several options are being considered including assisting the grower's cooperative, or other entrepreneur, in buying or leasing a truck or trucks committed to the local growers and markets. We will remain partners with producers to find a workable solution.

Assessment of Market Shifts and Opportunities for New Crops: Two strategies have been identified and deployed as a means of trying to keep current on these matters. The first is recognizing the importance of being in-touch with the marketplace, including consumers and resellers. This is best done through personal survey work that is used both as a follow-up to the year's activity and a planning tool for the next year's activity. Surveys, conducted by phone and in-person, will try to identify such things as whether or not there has been a noticeable impact of our efforts to build a buy-local campaign as evidence by consumer's "seeing or noticing" increased availability of locally produced goods in places other than farmers markets, whether there is a continued and/or growing desire to purchase locally-grown foods, whether there are quality issues or expressed desire for produce not currently available (i.e. bananas ((no)) or gourmet/flavored new potatoes ((yes))). Resellers will be asked about quantities, quality, packaging needs, price, demand for locally-grown products and if their customers are requesting new or additional products, or refusing to purchase others – and why. This will help us assess what market shifts may be happening and how producers may be able to respond to shifts in their next production cycle or what is being demanded of the producers, with some applied research in the development of agronomic practices applicable to northwest Montana, could be reasonably produced locally.

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In establishing a working relationship with the Biobased Institute and Agricultural Research Centers, we are doing preliminary market research on new crops (and value-added products) being developed through applied research to help pre-determine what has the best potential for commercialization. We are establishing a protocol by which such crops suggested by producers are first reviewed for market potential before investment is made in development of the agronomic side.

Communications: Several communication strategies were developed to keep the producer constituency informed, but one of the most effective strategies implemented was the development of a local growers cooperative. Through the cooperative producer members were informed of market opportunities: the size of the marketplace, types of production desired, delivery needs and packaging requirements. Another effective strategy was to hold buyer forums where the buyers could discuss their needs directly with the producers. The results of the forums were threefold- 1) The buyers connected a grower to their food needs; 2) The growers had a better understanding of the needs of a food service purveyor; 3) Both parties committed to expanding their businesses with each other. Further, staff attended and/or helped a broad cross-section of producer-clients attend meetings with the "Natural Organic Buyers Connection", the "Grocery Buyers Connection" and the Chef's Collaborative hosted by the Corporation for the Northern Rockies, all helping to educate growers and producers about entering expanded markets. A database has been developed to include all client-producers, including those members of the grower's cooperative, and producers are notified of any opportunities to participate in trainings, buyer's forums, marketing campaigns, trade shows and other activities.

Goal 4- Evaluate production potential and agronomic practices of selected alternative crops for NW Montana

- Identify products with market potential that can be grown in NW Montana

Evaluation of production potential and agronomic practices is an ongoing process, none of which is completed in a year's time. The Northwest Agriculture Research Center has several ongoing projects that continue to bear new results for alternative crops even now under commercialization through the Mission Mountain Market center. While the Amazing Grains Cooperative is 3 years old, with 54 producers growing Indian Rice Grass on small acreages, the best agronomic practices and quality measurements are still being developed which will ultimately result in the high quality, high yield grain crops we have come to expect from Montana Producers. In addition, research has been expanded to other potential gluten-free crops not now being substantially grown as a millable seed crop in Montana including timothy, green needlegrass and high-protein oats. Twenty producers were able to view the harvesting of Indian ricegrass at the research station and learn top "currently known" agronomic and harvest practices, which are maximizing yields and insuring minimal contamination of the seed from other crops. Extrusion technology and product development support for gluten-free products has also been provided for the Cooperative.

A farm tour and information exchange between Western Montana Growers Cooperative (WMGC) and the NW Agricultural Research Center was conducted with center director, Duane Johnson- PhD, for production information and research needs of the WMGC members. Dr. Johnson will be assisting the cooperative in determining the best varieties and crops for the cooperative's established and possible markets.

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Production assessment and market analysis is being conducted by and in conjunction with the NW Agricultural Research Center in a variety of areas, including:

- Four species of lavender were evaluated for lavender oil production and quality, and winter survival. None of these appear to have a commercial advantage over existing lavender production areas and will not be pursued further.
- Lavender mint: An existing mint (“bergamot”) produces very high quality lavulin essential oil (lavender oil) and in high quantity. There is a commercial fragrance buyer interested in contracting 50 acres of production in the next two years. Originally, this product was scheduled to go into horse supplements to reduce chances of colic and worms but appears too valuable for this use (\$18/lb). NWARC developed an increase block of ½ acre that we will expand to 5 acres in 2004 and 50 acres in 2005 to fully explore this potential and ready it for release to producers.
- Marshmallow: regardless of what is seen in the stores, marshmallow was originally from a real plant. The mucilage from the root is used to aid in digestion in horses. This appears to be a viable crop for commercialization.
- Sage: sage oil derived from clary sage is highly valued in the perfume industry. Clary sage is agronomically feasible but NWARC is awaiting the response from the perfumists as to quality of the oil. Conventional sage oil is also under evaluation by flavorists to season foods. Market feasibility is not yet complete on this product.
- Horse hay blends: 4 horse-specific hays were produced and are under evaluation for acceptance by the horse industry. Currently the best nutritionally has a relative feed value of 150 with full-bloom alfalfa rated at 100. The intent is to develop a Montana Identity Preserved hay with supplements specifically designed for this hay (hay + geriatric supplement; hay + athletic supplement, etc.). The increase block is 1 acre.
- Fenugreek: Fenugreek is a dryland legume that was initially evaluated as a horse supplement to enhance dietary consumption. The grain is used as a source of artificial maple flavoring. We have also discovered the endosperm of the seed is composed of gums rather than starch which may provide opportunities in developing carbohydrate-free pastas as well as replacing imported gums used in the celiac products of Montana.
- Timothy: Timothy was patented this year by MSU as a dietary food for gluten-free products. We established a nursery with 331 new timothy accessions (varieties) for evaluation. We also initiated an increase block (2 acres) to provide sufficient seed for product development in 2004.

Research at the Western Montana Agricultural Research Station in Ravalli County is focused on the production of specialty crops for the essential oil and medicinal herb market. Both stations held a field day, which was attended by approximately 300 producers, to disseminate some of the results of the above research.

SUMMARY

The various programs developed through LCCDC’s Mission Mountain Market are being coalesced into one, of many, models for economic development in rural areas. The work completed this year with assistance from the Montana Department of Agriculture and the FSMIP program, was to expand and evaluate the work of the past four years and out of that distill a model for incubation that provides resources and support to producers primarily engaged in the development of value-added

enterprises. This model is outlined and attached as **Exhibit 1**. The broad use of partners (including those geographically dispersed from western Montana) and resource teams, in addition to a well-trained staff, forms the basis of this model. The model has shown its adaptability by being used to develop a statewide collaborative program, which will be implemented under a recently funded USDA Agriculture Innovation Center Program, awarded to our major partner, Montana State University. This dynamic collaboration includes MSU's Biobased Institute, the Montana Department of Agriculture, the Montana Department of Commerce, Extension Service and Montana Manufacturing Extension, four additional economic development organizations and seven agricultural research stations throughout Montana to assemble a program where technical assistance of the type developed here will be extended to producers throughout Montana who will receive help in researching market opportunities and moving value added ventures forward to meet those opportunities.

Exhibits:

- Exhibit 1: Outline of Pilot Program for Incubating Businesses
- Exhibit 2: Flow Chart of Business Incubation
- Exhibit 3: Food Safety Survey
- Exhibit 4: Power Point Presentation – Buy-Local Campaign

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EXHIBIT 1

ESTABLISHING A PILOT PROGRAM IN NORTHWEST MONTANA THAT, IF SUCCESSFUL, CAN BE REPLICATED IN OTHER RURAL AREAS WITH SIMILAR FARM DEMOGRAPHICS AND POTENTIAL FOR CROP DIVERSIFICATION

Through the activities described in the attached final report on the Federal State Market Improvement Grant (FSMIP) awarded to the Montana Department of Agriculture in September 2002, the subrecipient of the grant, Lake County Community Development Corporation ("LCCDC"), has developed, and tested, a business incubation strategy for small-farm entrepreneurs and value-added agri-businesses that may be very suitable for replication in other rural areas. Over the past five years a small, community-based, specialty-food processing plant has been developed to provide space where fledgling food businesses could develop products and process enough volume with which to establish markets that will justify their expansion into their own processing plant. Several businesses are currently being "incubated" in the center, but while the processing infrastructure was being developed, each client has been treated as a separate project and no cohesive program of business development was established, until now.

With previous assistance from several Montana Growth Through Agriculture grants that funded some very specific projects and a FSMIP grant, awarded in 1999, to develop a regional marketing plan for specialty food products, the Mission Mountain Market Food and Agri-business Enterprise Center ("Enterprise Center") has succeeded in developing an incubation model that seems to be working for many family farms in northwest Montana. Throughout its development phase, the project has received national attention and several states have visited the project, with more calling and asking about how we are structured. We now have something to share with them in addition to what we were learning along the way.

This grant helped us to evaluate the work of the past four years, assess what we have learned from both the successful and not-so-successful projects and programs we have tried, expand on and test the theories we have developed and put in place a business resource organization that better addresses the needs of new businesses, especially those related to family farm and ranch operations. While our Business Enterprise Center reaches out to all small businesses in the area, we have developed a "track" for agri-businesses that provides support and technical assistance to any producer, producer group or agricultural enterprise, whether they are interested in direct-marketing their product, adding value to their production or working with other producers to enter into or capitalize a new venture. The system was tested through the development of the Western Montana Growers Cooperative, a local farm cooperative formed in the spring of 2003 that has, over the past year, drawn on a variety of resources that have been made available to them through the center. A flow-chart demonstrating how a client moves through the system is attached, as is a case study demonstrating the outcomes achieved by this grower cooperative and how some of the

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activities addressed by the goals of this specific grant, were resourced to provide assistance to producer.

The Enterprise Center both responds to inquiries from potential clients and does outreach to producers and agriculturally based businesses through local newspapers, trade shows and trade meetings. Clients range in size from the one-person specialty food entrepreneur wanting to start a business to the existing person wanting help with labeling, processing procedures or nutritional analyses to producers deciding to start a value-added business from existing or new crops. All are welcome at the center and each, working with an assigned advocate, determines how little or how much assistance they require. It is our responsibility to make sure they are aware of all the assistance and resources available to them, either through us or any partner agency or organization located anywhere in the state or, for that matter, in the country. For some, it may be as simple as a request for help in finding a source for bottles or jars or how to get a label approved, but for most it is a request to help them start or expand a business.

An initial *Intake Form* is completed on each client, who is then assigned to the staff person most closely associated with what they want to do. For instance, local farm wishing to expand their local markets with fresh produce would likely be assigned to our community food system coordinator, while a local orchardist wanting to make a food product from his/her cherries would be assigned to our food processing director. As their advocate the assigned staff person completes a full evaluation of the client's needs and, where necessary, involves other staffers or brings other resource partners to the table to help assist the client in achieving their goals. In the case of the local farm wishing to expand into local markets, the advocate may introduce them to the Western Montana Growers Cooperative; but if /when the farm wants to also develop a private-labeled, frozen poultry product, the advocate will expand the client team to include the food processing director and marketing specialist who will work with them on product and label development and accessing initial market research resources. The team may then be expanded to include business development resources to help them complete a business plan and/or find financing for their business. All the while, their advocate is their constant guide, providing follow-up and helping them keep on track. They will also continue to help the client evaluate their own progress and their capacity for moving their idea or business forward. Certainly, many clients move through the first few steps and find out that starting a business is much more involved than they had originally thought and determine that they simply do not have the capacity needed to be successful at the time, they are provided with good information on which to base their decision. For those that are committed to moving forward, the system provides them with the supportive environment they need which will increase their chances for success.

While entrepreneurialism and hands-on technical assistance to developing small businesses has long been supported in the mainstream business environment, it has not been readily applied, nor available to small, farm-based businesses. In fact, most farm/ranch operations are steeped in the tradition of raising certain crops and commodity selling. It continues to be a difficult transition for most to adjust to changing consumer demands that often result in need for changes in farm practices, to move to

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alternative crops or to diversify production. By developing a support system and local infrastructure necessary for helping these fledgling entrepreneurs become more successful in starting and expanding new ventures, positive economic change can occur in rural America.

EXHIBIT 3

Food Safety Survey

Lake County Community Development Corporation contracted with Alternative Energy Resources Organization (AERO) to gather consumer information relating to their Community Food Project. A survey was conducted to assess consumer attitudes about food safety, local food purchasing, and issues related to food production in seven Montana cities and towns in May 2003. The cities and towns included Great Falls, Missoula, Ronan, Polson, Billings, Helena and Big Timber.

A total of 182 surveys were conducted with the primary household shopper. Surveys were conducted at food markets, public libraries, churches, or by random phoning. Though the poll was not done as a valid statistical study, it does give clues on consumers' food concerns.

Food Safety

The majority of the respondents indicated that in general they were very concerned (39%) or somewhat concerned (34%) about the safety of the food they consumed. Respondents then evaluated seven specific food safety related issues and were asked to indicate their level of concern-ranging from very concerned to not at all concerned, or don't know.

The list is prioritized in order of greatest concern.

- 1) Food contamination from improper handling:** 59% of respondents were very concerned, 29% were somewhat concerned.
- 2) Unclean food carrying bacteria and/or other disease organisms:** 57% of respondents were very concerned, 32% were somewhat concerned.
- 3) Presence of growth hormones or antibiotics in the food:** 49% of respondents were very concerned, 29% were somewhat concerned.
- 4) Intentional tampering with food or the food supply system:** 49% of respondents were very concerned, 23% of respondents were somewhat concerned.
- 5) Food Containing pesticides or chemical residues:** 48% of respondents were concerned, 36% were somewhat concerned.
- 6) Inability to buy quality food:** 36% of respondents were very concerned, 34% were somewhat concerned.
- 7) Genetically modified food:** 35% of respondents were very concerned, 31% were somewhat concerned.

The relatively high concern indicated for the above issues, may need to be balanced by consumer's general feelings about the safety of the food they eat (39% very concerned, 34% somewhat concerned, 18% a little concerned, 14% not concerned). It is also unclear whether a high concern is a reflection of that fact that clean, uncontaminated food is important to people, or whether they are specifically worried about these issues in their own food supply.

Local food production

The majority of respondents agree that food grown in the local area was safer (strongly agree 20%, agree 42%, 16% disagree) and healthier (strongly agree 18%, agree 36%, disagree 21%) However, respondents were more ambiguous towards the statement that foods processed in local facilities were safer than foods processed outside of Montana. (disagree 32%, agree 26%, don't

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know 33%) The 32% disagreement with the statement does not indicate that this population thinks food-processing facilities are less safe in Montana, only that they aren't necessarily safer than food processing facilities out of state. Several respondents pointed out they thought this was a site specific issue, which may also contribute to the high levels of "don't know" responses, discussed below.

In the questions on local food safety, healthiness, and safety of local facilities, a large number of people responded they didn't know if local food was safer (19%), or if local food was healthier (24%) or whether food processed in local facilities was safer (33%). This might be an area where educating the consumer about local foods and local facilities would be appropriate.

The respondents were asked to respond to six items related to food production and indicate whether these practices were very important, somewhat important, not very important, not at all important, or don't know. These are prioritized from most important to the responders to least important.

- 1) Use water conservation practices:** 79% very important, 18% somewhat important
- 2) Supporting locally owned farms:** 77% very important, 21% somewhat important
- 3) Use soil conservation practices:** 75% very important, 20% somewhat important
- 4) Minimize the use of pesticides in farming:** 57% very important, 31% somewhat important.
- 5) Ensure the quality of life of farm animals:** 52% very important, 32% somewhat important
- 6) Eliminate the use of pesticides in farming:** 26% very important, 43% somewhat important.

These responses indicate people value/ expect good stewardship of agricultural lands. It would be interesting to know if respondents feel these values are largely being achieved in agriculture (on the local and national level), or if people feel there is a need to improve stewardship around these production issues.

The majority of respondents felt it was very important (53%) or somewhat important (40%) to have their food come from U.S. farms and ranches. Fewer respondents felt it was very important (28%) and somewhat important (50%) to have their food come from their local area. Many respondents pointed out that it is not possible for them to obtain all of their desired foods strictly from Montana, although people clearly think it is important (77% very important) to support locally owned farms as indicated above in the production issues section.

Information on the computation of the poll

The error rate on tallying and the computation of results is 2%. The discrepancy in numbers on total for some questions is due to some respondents not answering all questions.

Big Timber had a different form than the other six cities. Only the first part of the Big Timber survey could be used.

The complete data from the poll is included with this report.

Conclusion

The majority of the people who responded to the poll are concerned about food safety. They are particularly worried about improper handling of food and contamination of their food supply. Many are not certain that local facilities are safer.

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The respondents want to see water and soil conservation practiced. They also feel it is important to support locally owned farms. Though they would like to see the use of pesticides in farming minimized, they were less likely to support the elimination of pesticides.

Respondents felt it was important to buy their food from producers in the United States. They were less likely to feel it was important to buy food produced in their local area or Montana, although respondents did express strongly that it is important to support locally owned farms.