

**FOOD FOR THOUGHT:  
VALUE-ADDED AGRICULTURAL PRODUCTION  
AND BUYING LOCALLY**

A Final Report on the Senate Joint Resolution 13 Study  
of Value-Added Agricultural Production

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## **Executive Summary**

A dynamic tension infused the Senate Joint Resolution No. 13 study on value-added agriculture addressed by the Economic Affairs Interim Committee (the Committee) in the 2007-2008 interim. One perspective involved how to increase the number of local markets and processing facilities for locally grown food or livestock. The other involved how to address the needs of large-production agriculture that sells products out of state and capitalizes on the very economies of scale that years ago diminished the viability of local food-processing facilities.

The Committee made no recommendations related to the study, but explored both dynamics and heard suggestions from a University of Montana graduate student for addressing various barriers to expanded value-added production for farm-to-market programs.

***Small-scale approach*** -- Advocates of the farm-to-market, somewhat small-scale approach had encouraged passage of SJR 13 in the 2007 Legislature. For them, Montana's assets in agriculture and livestock production were a natural reason to retain income in the state by enhancing value-added food production here instead of shipping products elsewhere for processing and then buying those value-enhanced products after shipment back to the state. Other benefits accrue to local production, too, including lower transportation costs, fresher produce, and food security in potentially knowing the producer (or someone who knows the producer). Research by University of Montana graduate student Jessica Babcock helped to inform this part of the SJR 13 study as did public comment by representatives of small and large industries that use Montana grains, extension agents and regional economic development representatives, entrepreneurs involved in value-added agriculture, other researchers, and people endorsing farmers' markets and farm-to-college programs. Babcock's updates to the committee included reports on components of model programs and policies in other geographic regions. Because agricultural or commodities-oriented cooperatives are approaches that can be used for commercializing local production, the Committee also heard from the executive director of the Montana Cooperative Development Center about cooperatives and how they work. The Committee also toured the Mission Mountain Food Enterprise Center in Ronan as part of its May meeting. See Section I.

***Large-scale approach*** -- The Committee recognized that value-added food production could be applied to large-scale agriculture through means other than local processing centers. In meetings held outside of Helena, the Committee requested testimony from various growers and extension agents to discover ways in which the state could help to improve operations or remove barriers. See Section II.

**Activities** -- Implementation of the SJR 13 work plan adopted by the Committee included:

- Panel discussions in Miles City and Great Falls plus presentations in Missoula and Ronan on activities involving farm-to-market efforts and barriers to value-added food production, including what producers, nonprofit organizations and relevant businesses consider necessary to expand, improve, or develop a food processing industry in Montana.
- A report from the Montana Cooperative Development Center at the Missoula meeting, at which the Center's director discussed uses of cooperatives as a way of harnessing economies of scale for relatively small producers .
- Presentations by University of Montana graduate student Babcock on model programs from other states that encourage development of value-added food enterprises. Babcock's presentations included working papers on issues listed in SJR 13 as part of her graduate research, including reports on value-added farm programs in states geographically similar to Montana. See Section III.
- A summary of the impacts on the economy, society, and the environment of farm-to-market programs. See Section IV.

## **Section I. Pro and con of value-added agriculture from the farm-to-market perspective**

The benefits of a farm-to-market<sup>1</sup> program, as described by SJR 13 proponents, are primarily economic and environmental, with overtones of food security included -- both knowing where the food originated and being able to produce food locally in case of a major disruption of the U.S. transportation system. The economic components include:

- recirculation of a family or institutional food budget within a community rather than sending an estimated \$2.55 billion out of state;<sup>2</sup> and
- increases in sales (and viability) for local producers if a farm-to-market program results in more contracts.

The environmental or conservation-oriented aspects include:

- preservation of family farms, with related benefits to communities as well as possible hunting or other wide-open-spaces recreation;
- less use of fuel to transport local products than to transport products purchased through global distribution systems (see below); and
- fewer greenhouse gas emissions related to the decreased transportation involved.

### ***Groundwork for the Farm-to-Market Efforts***

The above benefits were among those cited at the Committee's first meeting in June 2007 by the advocates for SJR 13 who offered assistance for the study of value-added agriculture, particularly as the study related to development of local food processing systems. Among the proponents were representatives of groups that already had laid the groundwork for a farm-to-college program spearheaded by the University of Montana Dining Services, including the Grow Montana Coalition, among others. Neva Hassanein, an associate professor in the University of Montana Environmental Studies Program, provided the committee with a report, "Tracing the Chain: An In-Depth Look at the University of Montana's Farm to College Program", that reviewed the history of the farm-to-college program begun by the University of Montana in 2003.

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<sup>1</sup>The term "farm-to-market" will be primarily used in this report to represent the idea of food raised locally and being sold or distributed within the state. The term "farm-to-college" will be cited if the term specifically refers to the idea of raw or processed food from a local farmer/rancher being sold to a Montana college dining service. Depending on the destination, the concept has included "farm-to-school" and "farm-to-fork" to indicate a streamlined distribution chain.

<sup>2</sup>Cited in a Grow Montana handout from the June 2007 Committee meeting, "Montana's Food System Fact Sheet". The Fact Sheet noted that Montanans spent more than \$3 billion on food in 2003, of which about 15% was spent on Montana-produced food. The Fact Sheet cites a briefing paper on Montana from the Agricultural Marketing Service of the U.S. Department of Agriculture.

Within two years, the report said, the University of Montana Dining Services estimated that 13% of its \$3.1 million food budget was spent on farm-to-college products, of which 82% were produced in Montana.<sup>3</sup> Typically, UM Dining Services orders from SYSCO, a global supplier of food products with a warehouse in Billings and services in more than 170 other locations in North America. SYSCO's prime vendor contract is to provide 90% of what UM Dining Services has on its "market basket list", which does not include the farm-to-college items procured from 50 local vendors. In 2008, farm-to-college products accounted for more than 20% of the food products that were purchased by UM Dining Services. The director of UM Dining Services, Mark LoParco, noted that SYSCO has sought out local and regional foods and has been supportive of the farm-to-college effort.<sup>4</sup>

A 2006 report from Grow Montana on institutional food purchasing noted that Montana State University also had an informal local supply initiative that sourced approximately 10% of its food from producers within Montana.<sup>5</sup>

One of the ripple effects from the work done for the farm-to-college program was passage of SB 328<sup>6</sup> by the 2007 Legislature. This allowed food produced in Montana to be procured by governmental bodies using either standard procurement procedures or direct purchase under certain conditions, which included equivalent quality, sufficient quantity, and bids that either did not exceed or "reasonably" exceeded the lowest bid or price quote for similar food products produced outside the state.

### **Potential Barriers**

Although the mix of large and small suppliers has its benefits,<sup>7</sup> the expansion of institutional purchases from small local producers remains problematic on several counts:

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<sup>3</sup>Grow Montana, "Tracing the Chain: An In-Depth Look at the University of Montana's Farm to College Program", Executive Summary, March 2007, pp. 1-2.

<sup>4</sup>Email from Mark LoParco, May 18, 2009.

<sup>5</sup>Grow Montana, "Unlocking the Food Buying Potential of Montana's Public Institutions: Towards a Montana-based Food Economy", a project of the National Center for Appropriate Technology, 2006, p. 11.

<sup>6</sup>SB 328 is available at: <http://data.opi.mt.gov/bills/2007/billhtml/SB0328.htm>.

<sup>7</sup>The "Tracing the Chain" report described SYSCO's requirements to be a supplier, which some local producers have met: \$1 million worth of liability insurance, enough volume to keep the warehouse stocked, and "hefty" packaging. Grow Montana, *op. cit.*, p. 5.

- frequent deliveries are difficult for many local vendors;
- large quantities often are unavailable locally; and
- food preparation (for example, washing or chopping) is often not done by local sources.<sup>8</sup>

Another problem is a culture of familiarity with mass-produced products. As part of the UM initial research, students surveyed both consumers and producers and found that for some products extra steps are needed to meet the challenges of local production (for example, using recipes that call for seasonal foods or handling extra steps of production). Table 1 indicates a sampling of responses.

**Table 1: Sample Responses Regarding Benefits of a Farm-to-College Program**

The percentage reflects responses to a survey asking for "the most important benefit of farm to college"

<b>Consumers' response to "the most important benefit of farm to college":</b>
<p>A farm-to-market program:</p> <ul style="list-style-type: none"> <li>• supports Montana farmers and ranchers (42%);</li> <li>• keeps more money in Montana communities (21%)*;</li> <li>• provides higher quality food (9%);</li> <li>• helps consumers know more about where food comes from (11%);</li> <li>• means less shipping, which in turn means less pollution from various forms of transportation (6%).**</li> </ul>
<b>Producers' response to "the most important benefit of farm to college":</b>
<ul style="list-style-type: none"> <li>• The program provided a positive image for the company and exposure for their products.</li> <li>• Sales increased, sometimes by allowing sales that did not exist previously.</li> </ul>
<b>Other producer comments:</b>
<p>Concerns were voiced over contract issues - both being competitive with the prime vendor and selling through a bidding process.</p>

**Source:** "Tracing the Chain: An In-Depth Look at the University of Montana's Farm to College Program", p. 3 for consumers and p. 4 for producers.

\*A Grow Montana Fact Sheet noted that sourcing 30% of products locally instead of the current share of 15% would mean \$450 million more would go directly to in-state producers rather than to out-of-state producers and middle men.

\*\*The report analyzed the cost of a hamburger and French fries when purchased locally and through distribution chains. Local production meant ingredients traveled 141,252 miles. If purchased through a distribution system, the mileage was 393,930. Local purchases meant a savings of 43,000 gallons of fuel and fewer carbon dioxide emissions (516,026 pounds to 1,598,247 pounds), according to the report.

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<sup>8</sup>Grow Montana, *op. cit.*, p. 2.

In addition to those problems, 13 of 18 producers participating in interviews done by Grow Montana in the autumn of 2007 described a lack of technical and marketing information that would help them expand their purchaser contacts. Other perceived barriers included:

- inadequate number of up-to-date processing facilities;
- high costs of transportation, equipment/maintenance, marketing, insurance, and technical assistance;
- lack of capital;
- complex regulations, including that state-inspected meat products cannot be sold across state lines (a federal requirement); and
- a shortage of skilled labor.<sup>9</sup>

**Food innovation centers** -- One of the main ways to resolve requests from institutional buyers in Montana for more processed rather than raw foods is through what the SJR 13 proponents called food innovation centers or bio-product innovation centers. In her professional paper UM graduate student Jessica Babcock defined a food innovation center as "any program that offers facilities for food processing and testing". Many may include "technical assistance for marketing, business development, and regulation compliance."<sup>10</sup> In her professional paper and research presented to the Committee, Ms. Babcock explained that the umbrella term of food innovation centers encompassed value-added food facilities like commercial kitchens and entrepreneurial training centers like business incubators.<sup>11</sup>

At the time of the SJR 13 study, the only food innovation center in Montana was the Mission Mountain Food Enterprise Center in Ronan, which the Committee toured as part of its May meeting. The Mission Mountain Food Enterprise Center is a nonprofit, economic development center. At the time of the study, the center received major support from the Lake County Community Development Corporation. Among its offerings were a commercial kitchen and food processing center, a market association, and a Business and Cooperative Development Center. For sample activities, see Table 2. The kitchen was rented for producing products ranging from chocolate sauce to hummus. The Center's dry fill room allowed handling of spices, teas and cat

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<sup>9</sup>Jessica Babcock, et al., "Preliminary Analysis of Interviews with Key Stakeholders", presented to the Economic Affairs Interim Committee, Nov. 8, 2007, in Miles City.

<sup>10</sup>Jessica Babcock, "Redeveloping a Montana Food Processing Industry: The Role of Food Innovation Centers", professional paper for the degree of master of science in the University of Montana Environmental Studies Program, December 2008, p. 1.

<sup>11</sup>*Ibid.*, p. 10.

nip. Its large processing line served sauce makers from Missoula to West Yellowstone, along with a West Glacier winery and specialty chutney and chai recipes from the Tipu's Tiger restaurant in Missoula. A dehydration room served the Fat Robin Orchard of Polson with space for drying and freezing cherries.

During the tour and presentation to the Committee, representatives of the Center pressed for expanded state funding of food innovation centers and noted that the Lake County Community Development Corp. through its funding of the Mission Mountain Enterprise Center was helping clients in other counties as well as Lake County. (See below for information on 2009 legislation related to food innovation centers.)

**Table 2: Sample Users, Activities of the Mission Mountain Food Enterprise Center**

<b>Name</b>	<b>Location</b>	<b>Activity</b>
Orchard at the Flathead and Ram Rock Orchard	Both near Bigfork	Assistance in a feasibility study of new markets for cherries and provided training and access to a labeling machine.
Timeless Seeds	Ulm	Assistance in market analysis and a stock offering.
Lam Farm	St. Ignatius	Help with preliminary market research for artisan cheese, including regulatory and production requirements.
Montana Natural Beef, LLC	Ronan	Assistance in developing a business plan and conducting market research, including work on signage and flyers.
Flathead Native Ag Cooperative	Ronan	Assistance with business plan and recipe development, food processing, and marketing research, including research into trademark applications.
Amazing Grains	Arlee	Assistance with business plan development and market research
Common Ground Farm	Arlee	Assistance in recipe development, food processing of lettuce and raspberries, and licensing and labeling requirements.
Prairie Industries	Glendive	Assisted in packaging local grain soup mixes and barbeque sauce.

**Agricultural cooperatives** -- Cooperatives allow for a pooling of resources and information to help producers take a step toward local sales rather than sending products into large distribution chains. The importance of agricultural cooperatives in helping owners control the marketing or value-added production of their agricultural goods also was discussed at the

Committee's meeting in Miles City in November 2007. Brian Gion, director of the Montana Cooperative Development Center (MCDC), provided more background on cooperatives in general and agricultural cooperatives in particular at the Committee's May 2008 meeting in Missoula. Gion reviewed existing cooperatives (see Table 3 for a sample of agricultural cooperatives) and complimented the existing Montana laws related to cooperatives. He noted that since MCDC's creation in 2000, the center had assisted in the formation of 25 cooperatives that added \$8.3 million in payroll plus millions of dollars in revenues to Montana's economy. MCDC's assistance in establishing cooperatives includes education on the co-op business model, project planning, capitalization strategies, referrals, and board training.

**Table 3: Samples of Agriculture-Related Cooperatives in Montana**

<b>Location</b>	<b>Cooperative</b>
Statewide	Great Northern Growers
Statewide	Montana Branded Beef Association Cooperative
Statewide	Montana Organic Producers Co-op
Statewide	Montana Poultry Growers Co-op
North Central Montana	Agricultural Products Marketing Cooperative
Bigfork	Bigfork Farmers Market Cooperative
Dillon	Beaverhead Processing Plant
Glendive	Microbrewery, Commercial Kitchen, and Restaurant Cooperative
Hamilton	Valley Farmers Market Cooperative
Missoula	North Missoula Food Cooperative

**2009 legislation** -- Although the Committee did not sponsor legislation related to the SJR 13 study, a bill that provided for four food innovation centers, HB 583 sponsored by Rep. John Fleming, included an appropriation of \$250,000 in each of the next two fiscal year, FY2010 and FY2011, for four centers. The centers were required to have been in existence prior to Jan. 1, 2009, and be either a certified regional development corporation (CRDC) or a nonprofit organization that serves at least a four-county region. Six food and agriculture development centers were listed in testimony provided in support of HB 583:

- Snowy Mountain, a CRDC in Lewistown (serving Fergus, Petroleum, Judith Basin,

Wheatland, Golden Valley, and Musselshell counties);

- Great Northern, a CRDC in Wolf Point (serving Sheridan, Daniels, Garfield McCone, Roosevelt, and Valley counties);
- Bear Paw, a CRDC in Havre (serving Hill, Blaine, Chouteau, Liberty, Phillips counties plus the Rocky Boy and Fort Belknap reservations);
- Eastern Plains in Sidney (serving Richland, Dawson, Wibaux, Prairie, Carter, and Fallon counties);
- Beartooth, a CRDC in Joliet (serving Carbon, Yellowstone, Stillwater, Sweetgrass, and Big Horn counties); and
- Mission Mountain, a nonprofit serving Lake County and the Flathead Reservation.

The temporary funding depended on passage of HB 123, which did pass. That bill revised distributions from the coal tax trust fund, with one result being a rechanneling into the food innovation centers some of the money that had been going into the research and commercialization fund and the growth through agriculture program.

The whereas clauses introducing HB 583 echoed the issues laid out in SJR 13, and testimony in favor of HB 583 similarly reinforced the connection with the study. Jan Tusick, manager of the Lake County Community Development Corp., noted in her written testimony that "HB 583 is a first step of implementation of the findings of SJ 13 ...". She further referenced a survey taken in 2008 of the clients of the Mission Mountain Food Enterprise Center in which 30 clients who responded said their businesses created 40 jobs and generated nearly \$1.5 million in sales.<sup>12</sup>

HB 583, codified in 80-11-901, MCA, resulted in a competitive bid process with funding going to centers in Glendive -- the Community Giving Assistance Toward Employment (Community GATE) center, Havre - Bear Paw Development Corp., Joliet - Beartooth Resource Conservation and Development Area Inc., and Ronan - Lake County Community Development Corp. A September 28, 2009, press release from the Department of Agriculture announcing the funding said the selected centers would work with the Montana Cooperative Development Center to advise groups on production and marketing.

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<sup>12</sup>Letter from Jan Tusick to Sen. Don Steinbeisser, chairman of the Senate Agriculture, Livestock, and Irrigation Committee, and Members of the Agriculture, Livestock and Irrigation Committee, April 2, 2009.

## Section II. Value-added agriculture from a larger-scale perspective

As a state with major agricultural and livestock producers, Montana benefits from its vast spaces and usually from its climate. Large-scale production coupled with value-added producers' economies of scale suggest that one or two value-added processors are likely to work within a region, which means less competition. That reasoning cropped up in Babcock's December 2008 professional paper about market concentration for large processing industries, including those for wheat, beef, pork, and soybeans. Montana's large geographic area, low population, and high transportation costs, she wrote, "only serve to amplify these monopolistic tendencies. Agricultural producers have few, if any, options for adding value to their crops and livestock."<sup>13</sup> Babcock referenced the following concentration of processors, none of them headquartered in Montana:

- Three major firms dominate wheat milling: Cargill/CHS (Horizon Milling), ADM (Archer-Daniels Midlands), and ConAgra, which together had 55% of the market in 2007.
- Four major firms controlled 83.5% of the beef packing market in 2007: Tyson, Cargill, Swift & Co., and National Beef Packing Co.<sup>14</sup>

With the substantial contribution of Montana's grain growers to the state's economy,<sup>15</sup> the Committee decided to look at the difficulties experienced by large-scale growers as well as smaller growers. At a meeting in Great Falls, the Committee heard from the co-founder and manager of Timeless Seeds, Inc., a specialty grain business based in Conrad, as well as from a local representative of Anheuser-Busch Agricultural Resources, Inc., who noted that 1 of every 6 Budweisers and other brews produced by Anheuser-Busch in the United States contained Montana barley. Also presenting at the meeting were representatives of Pasta Montana, based in Great Falls, Montana Milling, Inc., and International Malting. Each reviewed suggestions for the Legislature to improve the situation of value-added agricultural production from the perspective of growers and large-scale value-added producers. Among these suggestions were:

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<sup>13</sup>Babcock professional paper, *op. cit.*, p. 8.

<sup>14</sup>I Babcock professional paper, *op. cit.*, citing a 2007 study by Mary K. Hendrickson and William D. Heffernan, "Concentration of agricultural markets" available at <http://nfu.org/wp-content/2007-heffernanreport.pdf>.

<sup>15</sup>Together, wheat and barley production in Montana ranks second to cattle as the top agricultural revenue source. For example, Montana ranked fifth in the nation for wheat production in 2008 and 2007 export revenues were \$525.5 million, according to the Montana Agricultural Statistics Bulletin, 2008.

- encouraging more manufacturing not only of value-added food production but of the goods needed at the manufacturing facilities, such as machining shops to produce equipment and fiber producers to make products for packaging and shipping;
- reconsideration of an excise tax on beer, which David Tweet of Anheuser-Busch said results in less beer and cheaper beer being sold, ultimately negatively affecting Montana barley growers,;
- maintaining access to water and natural gas supplies. The importance of both was indirectly part of Mark Black's comments on behalf of International Malting Co of Great Falls. Black also noted the benefits of basing a facility close to the growers.
- increasing the amount of research and education that can help conventional farms to transition to organic farms. Sam Schmidt of Montana Milling, Inc. of Conrad suggested the need for promoting organic production and noted that organic food was the fastest growing sector in the food industry, increasing by 20% every year for the last 10 years.
- working with vocational technical schools to train workers for computer or machine-shop skills needed by value-added food producers; and
- improving transportation options. David Oien of Timeless Seeds referenced the need to rely primarily on the trucking industry because of little-to-no railroad loading in Montana, while Randy Gilbertson of Pasta Montana said shipping from Montana to Seattle costs the same as from Seattle to Japan, which he termed "frustrating".

In a handout provided to the Committee, Oien emphasized the importance of the following existing programs:

- the Growth through Agriculture Program, which he said provided financing "when banks would not for the development of our branded value-added retail line, as well as for a feasibility study which led to a \$750,000 expansion project (financed by private equity and debt capital via Great Falls Development Authority". He described the program as innovative and important "for building a value-added agriculture that includes small to mid-size, Montana-based businesses".
- the Marketing and Business Development Bureau in the Montana Department of Agriculture;
- the organic certification program at the Montana Department of Agriculture;
- the International Trade Office of the Montana Department of Commerce;
- the Montana Trade Offices in Japan and Taiwan, which had been critical to the ability of Timeless Seeds to enter Asian markets;
- the Montana Manufacturing and Extension Center, which Oien called a "phenomenally professional and effective organization offering invaluable service to the manufacturing

(including food manufacturing) sector of Montana;

- Mission Mountain Food Enterprise Center, which had helped his business move into value-added products, Oien said. He suggested similar centers were needed in Eastern Montana to foster new products or further develop existing lines; and
- the Great Falls Development Authority and the Small Business Development Center.

Oien also suggested the benefits to value-added agriculture from the following:

- introduction or expansion of food nutrition and processing curricula at the university level, which is necessary to train workers for the industry;
- development of a vertically integrated food center similar to university-affiliated programs such as those in Lincoln, Nebraska, and Leduc, Alberta (see Section III);
- expansion of food science and nutrition programs at universities and technical schools to work with producers and processors in developing value-added food products in Montana;
- creation of a food marketing program similar to the Montana Manufacturing Extension Center;
- revisions to investment incentives to make sure that all sizes and types of businesses have some access to start-up or expansion resources;
- developing incentives to attract venture capital to the value-added food industry; and
- increasing the use of Montana-grown food in schools, state institutions, and restaurants.<sup>16</sup>

At a November 2007 meeting in Miles City, representatives of the Montana Extension Service, the Dawson County Economic Development Council, and Dawson Community College added an eastern Montana perspective to value-added food production. Glendive Extension Agent Bruce Smith suggested that more food innovation centers throughout Montana would help end the disconnect between urban and rural, which impacts the concept of buying locally. Smith also described the local Farm-to-Table project and barriers to implementing more mobile processing units, which he attributed partly to state officials' hesitance to certify mobile units.

Gene Buxcel of the Dawson County Economic Development Council discussed barriers to local production, including lack of financing incentives (particularly in comparison to North Dakota, which offers tax credits on a variety of programs), lack of housing, and lack of trained workers. The dearth of trained, good workers and available housing also were concerns of Bruce

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<sup>16</sup>David Oien's comments are available under the Feb. 7, 2008, meeting materials on the Economic Affairs Committee website:  
[http://leg.mt.gov/css/Committees/interim/2007\\_2008/econ\\_affairs/meeting\\_documents/materials.asp](http://leg.mt.gov/css/Committees/interim/2007_2008/econ_affairs/meeting_documents/materials.asp)

Bainbridge of Dawson Community College. He emphasized the need for Montana producers to develop markets overseas.

Although overseas markets were not necessarily the focus of SJR 13, the discussions about value-added production throughout the Committee's meetings incorporated export issues because the vastness of production for wheat, barley, and other grain crops as well as for livestock requires an export mentality. Buying locally is one small component of a strategy for enhancing the agriculture and livestock industries in Montana. And raising awareness of buying locally was one of the purposes of the SJR 13 study, along with highlighting the importance of local value-added production as a way of creating or keeping jobs locally as well as retaining other benefits of fresh food from local producers.

### **Section III. Summary of Reports Comparing Value-Added Production in Other States**

The Committee benefitted from the time and research skills of UM student Jessica Babcock who, as part of her graduate studies, researched best practices in other states (and provinces) for value-added production. A key component of many of those selected models was their affiliation with universities or government. This was true in the case of the following:

- the Food Processing Development Centre in Leduc, Alberta. The government of Alberta established the center in 1984 and continues to fund and operate the center at an annual cost of about \$5.5 million. The center's 39 full-time employees work with about 25-30 companies that are processing or selling their products from the facility. New products annually number between 100 and 125.
- the University of Idaho Food Technology Center in Caldwell, Idaho. The University of Idaho's College of Agriculture and Life Sciences started the center in 2002. Three full-time and three part-time staff work to establish partnerships between local growers and entrepreneurs. The annual operating budget is \$250,000, based on fees for services and augmented by contracts between private firms and the center's research and development unit. Approximately 60 clients work with the center.
- the Joseph J. Warthesen Food Processing Center in St. Paul, Minnesota. The University of Minnesota's Department of Food Science and Nutrition moved its dairy processing facility into a multi-dimensional food processing facility in 1970.
- the Food Processing Center in Lincoln, Nebraska. The Nebraska Legislature created the center as a self-sufficient organization that is affiliated with the University of Nebraska-Lincoln. The operating budget is \$1.5 million a year. Approximately 30 staff, excluding faculty, work at the center, serving about 40 clients a year.
- the Rutgers Food Innovation Center in Bridgeton, New Jersey. This center, created as a result of research by the Rutgers University Department of Agriculture, Food, and Resource Economics, works in conjunction with the Rutgers New Jersey Agricultural Experiment Station. From its opening in 2001 when people in the food industry shared advice with clients, the center has grown to include a processing facility, an annual operating budget of \$1.5 million (which includes subsidies from Rutgers University), and an average of about 125 clients a year.
- the Food Innovation Center in Portland, Oregon. This center became one of Oregon State University's 11 experiment stations in 2000, a year after being built, and operates in partnership with the Oregon Department of Agriculture. The university provides about \$670,000 of the annual budget, which is supplemented with another \$550,000 in grants.

Two faculty members, five research assistants, and three staff serve between 50 and 70 clients a year.

- the Northeast Center for Food Entrepreneurship in Geneva, New York. Affiliated with Cornell University, which pays the director's salary and half the salary of an extension support specialist, the center handles approximately 1,000 requests for assistance a year.
- Prince Edward Island Food Technology Centre in Charlottetown, Prince Edward Island. Established by the provincial government in 1987, this center has an annual operating budget of about \$3.5 million to help about 100 clients a year with analytical services and another 50 clients a year for product development and other technical assistance. The center employs an average of 30 people.

Less directly affiliated with or operated by government or universities were: the Mission Mountain Food Enterprise Center in Ronan, which is a program of the Lake County Community Development Corp.; the Taos Food Center in Taos, New Mexico, which is a program of the Taos County Economic Development Corp.; and the Vermont Food Venture Center in Fairfax, Vermont, which is a project of the Economic Development Council of Northern Vermont.

Babcock summarized the attributes, services, and funding of the 11 centers she researched, all of which provided processing and product development/technical assistance. (See Table 4). In addition she sought out the perceived reasons for success of the centers. Key to success, according to 9 of the 11 centers, has been staff with the right expertise. Babcock noted that a mix of staff with industry experience and academic expertise appeared to be ideal.<sup>17</sup> Another component of success was confidentiality. The responses indicated that both these elements helped to build trust in a center, which helped to build a good reputation.

Less clear was the role of location. For some of the centers, access to a good labor supply was important. At others, the location in a major population center was important. Still others emphasized the role of a wheel-and-spoke approach, using extension offices to be close to certain types of agriculture.

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<sup>17</sup>Babcock professional paper, *op. cit.*, p. 35.

**Table 4: Attributes and Services of Model Food Innovation Centers\***

Interim production and co-packing	<ul style="list-style-type: none"> <li>Interim production means clients can run their business out of the center for a short time, with the client providing its own labor and leasing the center's equipment and space.</li> <li>Co-packing means the center processes for the client.</li> </ul> <p><i>4 centers offer. Alberta, Prince Edward Island, Mission Mountain, Vermont</i></p>
Laboratory	<ul style="list-style-type: none"> <li>May include chemical, microbiological, nutritional or pH analysis, either on-site or at a nearby laboratory.</li> </ul> <p><i>10 of the 11 offer. Vermont does not.</i></p>
Education	<ul style="list-style-type: none"> <li>May include instruction in product development, processing equipment, business development, or food law.</li> </ul> <p><i>9 of 11 offer. Not offering are: Alberta and Vermont.</i></p>
Business assistance & Incubation	<ul style="list-style-type: none"> <li>May include marketing, business planning, networking, and support for commercialization, regulation compliance, and capitalization. Also may include business incubation.</li> </ul> <p><i>8 of the 11 offer.. Not in the list: Alberta, Minnesota, Nebraska.</i></p>
Food Science	<ul style="list-style-type: none"> <li>The services of a food scientist may include recipe development and formulation</li> </ul> <p><i>7 of the 11 offer. Not in the list: Montana, Oregon, Prince Edward Island</i></p>
Analytical Services	<ul style="list-style-type: none"> <li>May include consumer surveys, taste tests.</li> </ul> <p><i>7 of the 11 offer. Not offering are: Alberta, Montana, Nebraska, New Mexico.</i></p>
Food Safety	<ul style="list-style-type: none"> <li>May include training and certification to meet federal or state food safety laws or standards.</li> </ul> <p><i>7 of the 11 offer. Not offering are: Idaho, Minnesota, Nebraska, New Mexico</i></p>
Funding	<ul style="list-style-type: none"> <li>All charge user fees, but fees may be only for equipment, facility use, staff time, or a combination of all or one. Fees may be on a sliding scale.</li> <li>5 of 11 centers receive some form of government funding. (those that do not are not listed but Minnesota is self-sufficient with user fees and does not rely on university funding.)</li> </ul>

\*All the centers provide processing and product development/technical assistance so these are not listed here.

**Source:** Jessica Babcock, "Redeveloping a Montana Food Processing Industry: The Role of Food Innovation Centers", professional paper for the degree of master of science in the University of Montana Environmental Studies Program, December 2008, pp. 14-36.

#### **Section IV. Economic, Societal, and Environmental Impacts of Value-Added Production**

The economic, societal, and environmental benefits of value-added production, as mentioned briefly in Section 1, include:

- keeping producer and consumer dollars circulating in Montana rather than beyond state borders -- at least as far as small-scale farm-to-market efforts are concerned. Value-added production for large-scale operations results in more dollars from outside state borders flowing into Montana and related employment opportunities.
- preserving family farms and jobs related to farming and marketing. As mentioned earlier, family farms also are seen as possibly benefiting hunting or other outdoor recreation and the residents who make a living from these activities. Some large corporate farms also may have set-asides for hunting or recreational value. The Committee did not explore whether large or small farms had a greater employment or economic benefit if the outdoor recreation aspect is considered.
- knowing where the food originated;
- being able to produce food locally in case of a major disruption of the U.S. transportation system;
- conserving fuel used to transport products. One estimate of fuel savings was reported in the "Tracing the Chain: An In-Depth Look at the University of Montana's Farm to College Program". That report calculated that the ingredients for a somewhat locally produced hamburger and French fries would have traveled 141,252 miles compared with 393,930 miles for the same meal bought through a distribution system. In terms of fuel, the report said, the local purchases meant a savings of 43,000 gallons of fuel.
- reducing carbon dioxide emissions related to the decreased transportation costs, according to the same report, which estimated a reduction of carbon dioxide emissions to 516,026 pounds from 1,598,247 pounds for the meal bought via the distribution system.<sup>18</sup>

Another way to look at the economic and societal benefits is to review the key barriers to value-added production outlined in Babcock's professional paper. These included:

- a lack of technical and marketing assistance;
- a scarcity of processing infrastructure or facilities;
- lack of available capital;
- a less-than-encouraging climate;

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<sup>18</sup>"Tracing the Chain", op. cit.

- and too many complex regulations.

As for the barriers, climate fixes are beyond local resolution, but state assistance is possible for some of the other concerns. Funding always is problematic. Growth through Agriculture grants and start-up money available from Certified Regional Development Corporations (CRDCs) usually help at the front-end but growth-stage capital remains difficult to capture. In other states, universities have helped to bridge some of the infrastructure and marketing barriers. As described in Section III, programs at various state-run universities have helped add value for local producers. One of Babcock's suggestions for overcoming the barriers was to promote research and training in the Montana's university system and other appropriate agencies. Specific ideas included instituting a food science program, conducting studies related to improving markets for local production, assisting with marketing and technical tasks like product formulation, nutrition assessments, and assistance with health and safety regulations. She also suggested universities could assist with business planning, some of which already is being done through universities, the Department of Commerce's Small Business Development Center network and Small Business Innovation Research programs, and CRDCs, which provide a variety of professional and technical services in addition to handling funding available from federal, state, county, and local resources to help local economic development efforts.<sup>19</sup> Prospectively helpful would be studies of which regulations could be streamlined or made less complex without harm to public safety. Larger-scale value-added producers also urged expanded technical school training in such areas as welding or computer training.

Among other Babcock recommendations to address the barriers to value-added production were to:

- increase communication, networking, and partnerships among industry leaders, the university system, regulators, and potential funding sources;
- implement tax credits for business start-ups and tax incentives to encourage the purchase of locally produced food as ways to help prod local production and overcome any constraints related to ease of using a nationwide distribution system; and
- establish a cooperative program in which participants could share technical assistance like use of bar codes, information on liability insurance, labeling, and processing of large orders.

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<sup>19</sup>For more information on CRDCs, see: <http://businessresources.mt.gov/CRDC/default.mcp.x> .

## **Conclusion**

Greater communication and networking and increased use of partnerships as well as the use of tax credits or tax incentives provide societal benefits but require economic tradeoffs. Similarly, environmental benefits of decreased fuel use for transportation and the related reduction in carbon dioxide emissions accrue primarily to local sales of Montana products, generally those from small-scale producers. However, large-scale producers also would benefit economically from greater value-added production here and attention to improved transportation networks for shipping to national and foreign markets. A challenge for policymakers is to determine what actions would benefit both types of producers with the fewest tradeoffs.

The bottom line for the SJR 13 study was that value-added production was seen as a benefit in various ways for both small-scale producers selling locally and large-scale producers selling out of state. While the Committee made no recommendations for future action, the review of barriers and the options for addressing these barriers to value-added production for both large and small-scale producers, as described in this report, may be helpful for future legislators, the various state agencies involved, and the university system to consider as budgeting and program planning moves forward.