

Creating a Value Added Dairy Processing Enterprise in Wyoming

A project of

George Farms

Feasibility Analysis

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By

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1 Summary

Within the next 1-3 years, George Farms is planning to build a new farmstead creamery Cody, Wyoming and introduce new value added dairy products into the local market. Comments regarding a creamery concept in Wyoming – the first one built in many years – have been positive to date by local consumers and retailers. The project will consider markets primarily to customers in the state, focusing on retail stores, their own creamery store, and other market channels.

To date, the activities of George Farms to determine feasibility of the venture are as follows: (a) grant awards through the USDA and others to support technical and business consulting needs; (b) trip to Wisconsin to evaluate small and mid-size creameries; (c) attendance at the American Cheese Society meeting; (d) access to and review of technical materials and examples; (e) on-site evaluations by Wisconsin-based dairy consultants; (f) consumer focus groups aimed at understanding the local market and the effect of the tourist market; (g) an extensive survey of WY-based consumers to better understand their willingness to support the new creamery operation; and (h) an on-site technical evaluation and discussion for site placement, building layout, and equipment needs.

The feasibility of the venture was determined in the following areas:

- Technical Feasibility – No products have been produced or tested to date, but there has been significant discussion about the types of products that may be successful in the local (Big Horn Basin), state, and regional markets. Developing recipes, production operations, product formats, plant lay-out finalization, and equipment needs are among those issues that still need to be discussed and finalized for the Business Plan.

None of the 3-4 products initially envisioned presents a significant technical challenge for an experienced dairy processor, and all products can be varied to create seasonal and specialty variations.

- Market Feasibility – for this study, the market is considered in four different gradations: (a) local marketing and sales to residents of the Big Horn Basin; (b) tourist marketing and sales predominantly in the four summer months; (c) marketing and sales to other Wyoming-based markets exploiting the uniqueness of George Farms as a value added dairy processing plant; and (d) marketing and sales to selected markets outside of Wyoming – especially Montana – and possible issues of product and market message.

The study provides evidence that suggests over 80% of the current milk produced from the farm's 550+ cows can be turned into value added products and sold within one of the four markets suggested in the first year of production. Strong emphasis is placed on the need for different market approaches for each of the consumers in these categories; marketing resources will be needed to effectively carry out each approach.

- **Economic Feasibility** – All economic factors point to the potential for a successful value added agricultural production activity, but the lack of population/consumers and the unique nature of the project make determination more difficult. There is no current pool of trained labor in value added dairy product; George Farms will need to hire senior-level production and market staff for assistance, especially in the first 2-3 years of the venture. It will then be expected that the senior staff could train the local labor pool in production, sales, marketing, and other needs. Utilities for the operation of both a creamery and on-farm store can be accommodated. Waste disposal issues are important, and systems will need to be developed to adequately handle both the whey and wash water. Transportation is adequate along State Route Alt 14 to support product distribution to local markets and encourage local and tourist traffic to the on-farm store. Hard surface roads are available to state and regional markets, but distance and weather may provide challenging (and expensive) for both self-distribution and partnership arrangements.
- **Organizational Feasibility** – The George family has an excellent three-generation background in dairy production, and understands many of the macro organizational and technical issues required for success in the value added dairy venture. There is currently no family member that can fill the technical roles needed in the creamery (these will need to be hired), and the marketing skills needed to sell branded George Farms products may be different than the family's current expertise. Organizationally, additional consideration is needed for (a) the seamless organization of the farm →creamery business operations; and (b) key partnerships for operational efficiency of the value added business.
- **Financial Feasibility** – A very cursory analysis of (a) capital start-up costs; and (b) operational costs is provided based on the experience of the authors. Undercapitalization of any aspect of the new venture – be it infrastructure/equipment, marketing, or start-up working capital costs – is strongly discouraged. More financial analysis will be needed in the formal Business Plan.

Other issues and recommendations are provided by the authors in Section 8 of the report.

2. Description of the Project

2.1 NATURE OF THE PROJECT

The following section briefly outlines the nature of the project through a series of questions. Further explanation for each section is provided within the report.

2.1.1 What is the current status of the project?

George Farms (Cody, WY) is mid-stream in evaluating all business aspects in creating an on-farm dairy processing facility. The new facility would be the first new dairy processing plant in the state of Wyoming for many years.

To date, activities germane to the project include the following: (a) grant awards through the USDA and others to support technical and business consulting needs; (b) trip to Wisconsin to evaluate small and mid-size creameries; (c) attendance at the American Cheese Society meeting; (d) access to and review of technical materials and examples; (e) on-site evaluations by Wisconsin-based dairy consultants; (f) consumer focus groups aimed at understanding the local market and the effect of the tourist market; (g) an extensive survey of Wyoming-based consumers to better understand their willingness to support the new creamery operation; and (h) an on-site technical evaluation and discussion for site placement, building layout, and equipment needs.

2.1.2. Where does the group want to go?

The group would like to be paid the best possible price for its farm-fresh milk, have a stable market for the milk, and provide a sustainable living for all partners on the George Farm.

Recent questions about the marketing of their milk to a large cooperative (see 2.1.3) have prompted the farm to investigate alternative markets and the possibility of starting a value added venture of its own. Building a WY-based milk processing facility will require a multi-million dollar investment of resources and creation of at least one new business (on-farm creamery) and potentially a second business (on-farm creamery store).

2.1.3. Why does the group want to go forward with the Venture?

Over the last year, the current buyers of George Farm fluid milk have provided strong indications that (a) they may not be able to buy all of the farm's milk in the future; and (b) the milk may need to be sold to other dairy processing plants in Montana or as far away as Colorado. The uncertainty, plus the anticipated increased cost of shipping, necessitates the need for new options, especially those that can be better controlled by the George Family themselves.

The initial activities outlined in 2.1.1 above have provided some indication that a new dairy processing facility in Wyoming may be viable. Questions remain concerning the following:

- What is the strength of the market for their branded products beyond Wyoming?
- What are the total capital costs of the venture?
- What are the ongoing costs of the venture?
- What staffing can be recruited locally, and what technical staff may need to be recruited from elsewhere?
- How does the creation of a value added processing plant and parallel creamery store affect their current dairy production operations?
- Who in the George Family will be most involved in the new enterprise(s)?
- What are the training and information needs that will be on-going as George Farms operates the processing plant and store (e.g., food safety)?
- ...and others....

2.1.4. How will the group accomplish the Venture?

The group will accomplish the venture by the following steps/decisions:

- Evaluate all data from this document and the accompanying Business Plan
- Evaluate the effect on the new creamery of the operation and profitability of the current farm, especially the financial resources.
- Evaluate the financial resources and terms available to them and determine how this new enterprise will be profitable in the long term.
- Construct the new facility based on their evaluation.
- Establish all operations for the new creamery, parallel sales/distribution needs, and the store.
- Open and operate the facility.

2.1.5. What resources are needed?

The following categorization represents the pools of resources needed for the project:

- Pre-construction planning – including architectural drawings, permits, financing considerations and costs, and legal costs
- Construction of the facility, including the creamery and the store
- Sourcing and installation of the equipment for both venues
- Pre-production working capital, including advanced marketing needs and staffing
- Contingency funds and early production working capital

Although the final budget will be determined in the Business Plan, the sum total of these needs is estimated between \$4-6 million.

2.1.6. Who will provide the assistance?

Similar to many complex food production facilities, it is anticipated that a number of funding sources will be needed to complete the new venture. They may include, but are not limited to, the following:

- Local bank
- Local and state economic development support
- Federal grants and financial programs, including loan guarantee programs
- George Farm resources (self-financing/contribution including in-kind of land required)
- Investors
- Other

The strategy for raising the capital needed will be part of the Business Plan.

2.1.7 When will the Venture be completed?

One suggested timeline of the venture – if the farm wishes to expedite the process - is as follows:

- March/April 2014 – completion of consulting reports
- April/May 2014 – review of reports; George Farms decisions that mobilize the marshalling of resources
- June 2014 – pre-construction phase to include financing options, recruitment of architect and dairy systems consultant¹ (for equipment purchases and needs)
- Fall 2014 – all drawings, final equipment lists, financing options, etc. are completed; apply for the assistance through Cody Forward and WY Business Council.
- Winter 2015 – approval of financing through WY Business Council announced.
- Spring 2015 – ground-breaking; begin construction, equipment set-up, etc.
- Fall 2015 – verification of processes, licensing, etc.
- Fall/Winter 2015 - opening of plant and on-farm store

2.1.8. What are the risks?

With all new business ventures, risks are numerous. Those that are most critical to the success of this project are the following:

- Markets for products – as discussed in Section 4 below, George Farms will need to match its production to markets; even with enthusiastic Wyoming consumers, there may be a need to sell at least some portion of its products in other states. The breakdown of issues and options for the market are provided below; understanding that without sample products to taste test with consumers, there is increased uncertainty in their acceptance².

¹ Example here is Darlington Dairy Supply, met during the July 2013 Wisconsin trip.

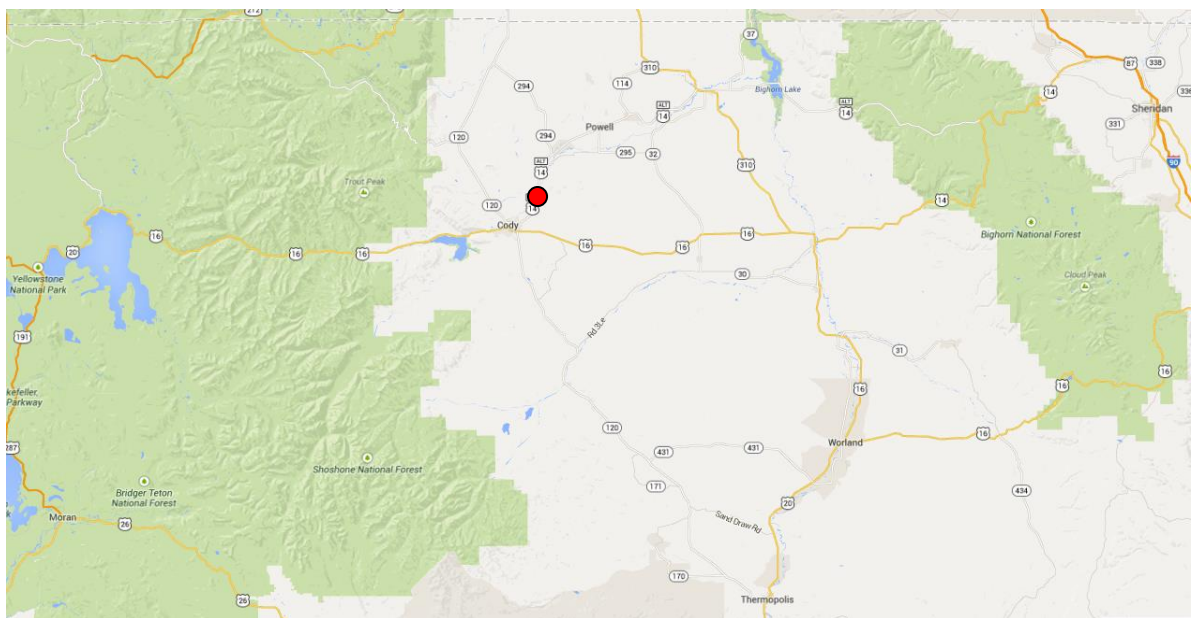
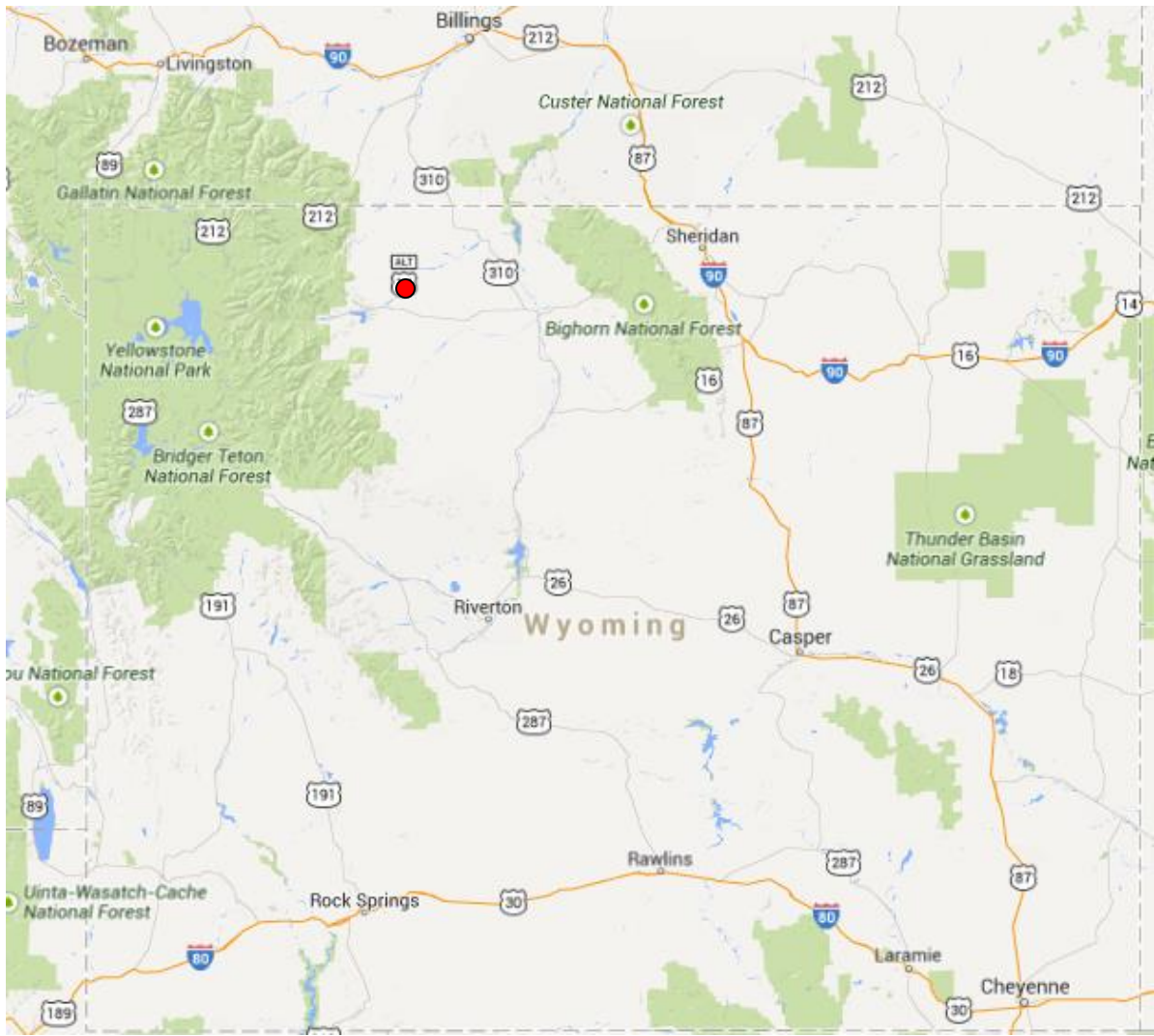
² There were limited taste tests of Kefir and cheese curds only as part of the October 2013 focus group.

- Creating partnerships to be successful in the long-term – most successful small and medium sized value added dairy plants create a series of technical, marketing, organizational, and financial partnerships that help foster success. Technical partners may include production consultants, university-based centers, key suppliers, and others. Marketing partners include brand development consultants, distributors, co-marketers, retail establishments, and others. Organizational and business partners include accountants that help bridge the production and value added businesses, lawyers that understand contracts and intellectual property, informal/formal business advisors, and the like. Financial partners include the creamery’s principal bank, economic development organizations, private investors, and others. Partnerships often change in the first years of operational, and success often brings opportunities and potential partners that need to be carefully considered.
- Maximizing sales to both local and tourist populations – as outlined in Section 4 below, the opportunity to market to both Wyoming consumers and seasonal tourists provides opportunities and challenges for the new creamery. The marketing message and its implementation may be very different for each group, and is discussed below.
- Maximizing sales margins through self-distribution and self-sales – servicing local Big Horn Basin consumers may be best accomplished through self-sales (at the creamery store) and self-distribution. The ability of George Farms to be part of the marketing and sales process and not just the production process provides the potential for increased profitability. Direct-to-consumer sales require additional infrastructure (anticipated need for a reefer truck and a smaller Sprinter-type van), but also provides flexibility for product delivery in the local area and for fresh products of increased value (like out-of-the vat cheese curds).
- Coordinating the farm, creamery, and retail businesses – In considering the creamery and creamery store, George Farms is in fact adding two additional businesses to their enterprise (note here: the creamery and store can be one business, but liability and accounting may be simplified if split). Managing and coordinating the workload, production calendars, marketing calendars, etc. may require new business strategies for all George Farms enterprises to be successful.

2.2 GENERAL SETTING AREA

The general setting for the new venture is Cody, Wyoming (population 9689) and more generally Wyoming’s Big Horn Basin³. The target market area includes the entire state of Wyoming and key adjacent larger cities in Montana (shown here Billings and Bozeman) and other adjoining states.

³ See <http://waterplan.state.wy.us/plan/bighorn/2010/finalrept/execsumm.pdf> where population in the basin is listed as 89,500. Per discussions within the study group and which counties are chosen, this total may be as low as 57,000 (Park, Washakie, Big Horn, and Hot Springs counties)



Characteristics of the area that lend themselves to a new value added dairy venture include the following:

- Population in Cody and nearby Powell have indicated themselves as strong local foods consumers (see Below Section 4). Based on the focus group with Cody businesses in October 2013, local businesses are also appreciative of having a unique local food business as part of Cody for both the local and tourist consumer.
- Additional cities in the Basin visited in August – October 2013 appear to have interest in the value added dairy venture, and there are no Wyoming-based dairy products in the stores to compete with George Farms. Small cities like Powell, Lovell, Greybull, Worland, Thermopolis, and others each have one to three local retail stores.
- Tourist season is primarily May-September, and Cody serves as the east gate entrance to Yellowstone National Park. The Buffalo Bill Historical Center and Cody Nite Rodeo serve as in-town attractions as the population can double during tourist season.
- All dairy products in Wyoming are made outside of the state. All bottled fluid milk – including from George Farms dairy – is processed in Montana. There is a small selection of “local” cheese from Utah and Idaho in retail stores, but much of it comes from Oregon (Tillamook), the Midwest, and elsewhere. Ice cream in the retail setting is predominantly national brands, as is butter (save the specialty rolled butter from the Midwest). There is currently an entrepreneur in nearby Powell that smokes cheese, but the actual cheese is not manufactured in the state.

State and regional area and markets are also critical for George Farm success. Despite a population in Wyoming of 576,000, there are indications of interest in local foods (see Section 4 below).

George Farms plans to establish the creamery and creamery store on Highway Alt 14 between Cody and Powell on their current property. More site selection issues will be discussed in the Business Plan, but characteristics of an optimum site location should include the following:

- The creamery as a destination;
- Ease of disposal of the whey and wastewater;
- Inclusion of ancillary activities around the creamery – corn maze, Farmer’s Market, etc;
- Adequate parking (including for buses and campers) and a drive-up window capacity;
- Traffic on and off a busy highway; and
- Signage that will guide patrons to the creamery and store location.

2.3 OWNERSHIP AND STRUCTURE

The family member owners of George Farms will also share ownership in the value-added venture are as follows:

- 1) **Scott George.** Scott is one of three partners at George Farms. Scott has been heavily involved in the National Cattleman's Beef Association. Currently he serves as the NCBA President. In 2010 Scott was elected as the Chairman of the Federation of State Beef Councils. In 2009 he served on the Meat Export Federation. In 2008 he served as the Chairman of the Wyoming Beef Council. In all these capacities Scott has been involved in the promotion of beef, both in Wyoming, nationally, and internationally. He has worked with many retailers, food outlets, and other entities in this capacity. One such example is his service on NCBA's New Product Development Committee. While participating in this capacity they were able to assist in the development of the flat iron steak. He has also been involved in educating consumers on the nutritional value of beef as well as proper preparation and cooking methods of beef. Scott has also been active with the Wyoming Farm Bureau Federation. From 2004 – 2008 he served as the Chairman of their General Issues Committee. Scott has also been a board member of our local county Farm Bureau since 1992. In 2011 he also began serving as a board member for Y-TEX Corporation whose global headquarters are located in Cody, WY.
- 2) **Lynn George.** Lynn is the second of three partners at George Farms. In addition to his farming responsibilities, Lynn has, for the past twelve years, been a Sales Representative for American Breeders Service Global. In both 2005 and 2012 Lynn was the top sales representative in his district and three other times has been the runner up. In 2009 he was appointed as the Vice President of ABS Global's Independent Representative Association. Lynn has also served on the agriculture advisory board for North West College (located in Powell, WY) since 2004. He has also assisted the college in teaching cattle artificial insemination courses for many years.
- 3) **Arley George.** Arley is the third of three partners at George Farms. Arley is currently serving as the Chairman of the Western Dairy Association and has served as a member of their board of directors since 2009. He was also recently appointed as a state and regional representative for the United Dairy Industry Association. During his time serving in these capacities Arley has helped promote such programs as "Fuel up to Play 60", a program which teams up with the National Football League targeting schools and school children to help promote physical exercise and the consumption of healthy foods such as low fat milk. Arley also served for two years in Bolivia as a full time missionary for his church where he became fluent in Spanish.
- 4) **Adam George.** Adam is the oldest son of Lynn George and returned to the family dairy in 2008. Prior to this Adam received an MBA from the University of Nebraska – Lincoln and a B.S. in Animal Science from Brigham Young University – Idaho. Adam was also appointed to the Wyoming Beef Council by the Governor of Wyoming in 2009 and was reappointed in 2012 for another three year term. During Adam's undergraduate work he served as an intern for Farm Management Company. There, he

helped develop a strategic business plan for their tomato farms, which helped them focus their growing season and increase customer loyalty. While at graduate school Adam worked as a graduate research assistant under Dr. Dennis Conely. He researched the supply and disappearance of corn and helped develop a global corn model.

- 5) **Spencer George.** Spencer is the oldest son of Arley George and returned to the farm in 2007. Prior to this Spencer received a Bachelor's degree from Brigham Young University – Idaho in Ag Systems and Technology. During this time Spencer worked at a 10,000 acre custom haying operation mastering hay harvesting techniques and fine tuning his mechanical skills. He also designed and built his own home enabling him to fine-tune his construction skills. Spencer also served for two years in Ecuador as a full time missionary for his church where he became fluent in Spanish.
- 6) **Seth George.** Seth is the second son of Lynn George and returned to the family dairy in 2010. Prior to this Seth received an MBA from the University of Nebraska – Lincoln and a B.S. in Animal Science from Brigham Young University – Idaho. During this time Seth worked as a customer service representative for DHI plus helping dairy farmers utilize their record keeping software. He also worked on 20 different dairies in Idaho as an artificial insemination technician. In Nebraska, Seth was an intern for Lone Creek Cattle Company, assisting them with the implementation of new beef management software, value added beef programs, and the development of a new branded beef product. He also received a graduate research assistantship.

All of the George family members are currently involved in the production side of the dairy, as follows:

- Scott George: Feeding, animal movements, corral maintenance
- Lynn George: Irrigating/farming, spring and fall field work, corn chopping, cattle marketing
- Arley George: Crop Plan, fertilizer and seed, irrigating/farming, insurance
- Adam George: Financial records (projections & actual), commodity merchandising, feed rations, irrigating/farming
- Spencer George: Mechanic shop, mechanical maintenance, equipment purchasing, and cutting & baling hay
- Seth George: Animal reproduction, records and IT, human resources, processing plant project

Adding the value added processing and sales through a creamery store may require the George Family to re-consider specific elements of the ownership and structure, as follows:

- Will all family member/owners of the farm also be owners of the creamery and store? Will they be owners in the same or different proportions?
- Will the ownership of the creamery store – if it is a separate business entity – allow outside minority investment if additional resources are needed to complete the project?
- Will there be any changes in ownership of the farm as a result of the construction and operation of the creamery?

There are a number of ownership options that can be further discussed in the Business Plan, including the following:

- Ownership of the creamery property by the farm, and then rented to the wholly separate LLC creamery and store.
- Ownership of the creamery building and fixed equipment by Cody Forward – details to be discussed further with that economic development agency and specified in the Business Plan.
- Separate ownership of the creamery and store, not only for possible investment reasons, but also to provide for liability issues in regards to food safety.
- A store front or partnership in Cody, either permanent or seasonal.

2.4 MANAGEMENT AND STAFFING

As noted above, each of the owners has extensive farm management duties as part of the operational duties. What then are the options for the current George Farm family member/owners to manage the new value added enterprise and retail operation? Options include the following:

- Eliminate all production responsibilities from one of the current family members listed above and assign senior management responsibilities to him. This approach is not without precedent as Crave Brothers Farm (Waterloo, WI) re-aligned their management duties when creating Crave Brothers Farmstead Cheese. George Crave became the president and cheesemaker at the creamery, and the remaining three brothers divided responsibilities for crop and dairy production. Monthly meetings keep all four owners abreast of production and processing needs.
- The family serves as the management board and retains all administrative/financial duties, but hires non-family professionals for all senior level technical and marketing positions.

Regardless of structure, there is wisdom in considering the new enterprise as having two operational units: (a) value added production; and (b) marketing and distribution (which

would include the creamery store). Staff for the production side will include the following (job descriptions to be included in the Business Plan):

- Plant manager – overall planning and management, quality control, coordination with farm (supply) and marketing/distribution.
- Head cheesemaker and one or two production specialists that have experience with all proposed products. It is expected that these positions assist the plant manager in training the semi-skilled labor force and help those local workers interested in advancing to cheesemaking and production specialist positions (as these new positions will be needed as workload increases).
- Semi-skilled labor that work on the production line, packaging products, etc.
- Unskilled labor for clean-up, maintenance, loading/unloading product, etc.

The staff for marketing and distribution side would include the following:

- Overall marketing and sales manager
- Distribution and retail manager in charge of all external accounts
- On-farm store manager
- Delivery personnel (two minimum)
- Sales staff (initially three to five; these can initially be part-time positions) – sales in the on-farm store, assist with Wyoming (local accounts) and regional accts, conduct store demonstrations, etc.
- IT/web/social media for initial set-up and day-to-day updates
- Unskilled – store and grounds maintenance, other

2.5 CRITICAL INPUTS

Critical inputs for the success of the George Farms creamery include the following:

- Continued quality and consistency of George Farms milk.
- Although there should not be issues at the start of creamery production, there may be wisdom in stockpiling key spare parts for certain processing systems. In regions where value added dairy companies abound (like Wisconsin or Vermont), there are often informal agreements about assisting neighboring ventures. George Farms does

not have that luxury, and so must create systems that allow very timely supply delivery, emergency technical support, etc.

- Market information is also a key critical input for George Farms, necessary so that production can be increased or decreased based on demand.

2.6 ECONOMIC FACTORS

The followings section offers a number of key economic indicators that are often considered when setting up a new value added food enterprise:

- Availability of trained or trainable labor – Based on labor availability for the farm, there is sufficient but not an overwhelming supply of skilled labor for the new venture. George Farms has worked hard to train its dairy production staff, with good success over the years. The labor pool for the creamery may be somewhat different, and may include part-time workers for production, packaging, and maintenance. The labor pool for the creamery store may require still different sets of skills – these may be more service-oriented jobs with good people skills needed.
- Total labor requirements – including the creamery and store, the total non-family labor requirements for starting the operation may number 12-15 full-time equivalents. With successful sales and increased or higher-value specialized production, the number of staff required could double in two to three years.
- Utilities (electricity, natural gas, water, sewer) are generally sufficient for the creamery, with water usage as high for a creamery operation.
- Transportation is adequate along State Route Alt 14 to support product distribution to local markets and encourage local and tourist traffic to the on-farm store. Hard surface roads are available to state and regional markets, but distance and weather may provide challenging (and expensive) for both self-distribution and partnership arrangements.

2.7 ECONOMIC IMPACT ON THE LOCAL ECONOMY

Indications that the creation of the value added creamery will have a direct impact on the local economy are as follows:

- Commitment by USDA and WY-based partners to fund the Value Added Producer Grant. Through the study, Cody Forward has been engaged in all aspects of research and analysis, realizing that a successfully operational creamery provides substantial spin-off opportunities for local restaurants, events, retail stores, etc.
- In the consumer survey, local economic development was noted in numerous responses, citing the additional jobs for the area.

- As noted in the October 18 focus group, the project brings economic impact in the form of a specialty food that is currently not in the state. This may be attractive to foreign visitors and other tourists. The group – any of which own businesses in Cody – noted that the new products would be sold in local restaurants and/or be used as ingredients in local candy. Their advise for George Farms included: good product matched with good service; make the creamery store an interactive experience; and develop partnerships with other business.

3. Technical Feasibility

The technical feasibility of the value added dairy operation is dependent on the products chosen. Products are described in more detail in Section 4 below – for the initial roll-out products would include (a) fluid/bottled milk; (b) cheddar and similar cheeses; and (c) butter. An optional fourth product –depending on the progress of the creamery store – would be premium ice cream. The general implications of such a product mix and business approach are the following:

- Separate Grade A and B rooms -- for production of milk, yogurt and other products in the Grade A room and cheese in the Grade B room;
- Expandable and flexible design of the facility;
- Transparency to the public, while maintaining strict food safety. This assumes viewing windows and tours for the public, with possible cheese, butter, or ice cream making with retailers or chefs; and
- Ability to maximize the local market (see Section 4 below), and ability to ramp up annually for the tourist market.

During the December 2013 consultations of Rane May and George Farms, topics included (a) construction of the processing plant in the size and capacity to be used in the future; (b) an operational plan that could be implemented in three phases; and (c) equipment purchases completed at the start of the venture or on an as-needed basis for production. A significant amount of time was devoted during this consultation to describing production procedures and some potential yields of product.

In considering phases of production, further conversation is needed to determine how long a phase lasts – this may depend on both available financing and the reaction of the marketplace to each of the products below. Options for phased production may include the following:

Phase I – assumed to be initial start-up and for at least one year of production to evaluate the seasonality of the market, production and distribution issues, etc.

- Fluid Milk
 - Whole
 - 2%
 - 1%
 - Skim
 - Flavored Milk
- Other bottled products
 - Bottled Water
 - Juices

- Cheese Production including cheddar and similar products; cheese curds
- Butter Production including specialty rolled butters. This product would use the butter fat created by the lower fat fluid milk products

Phase II – these specialty products may require additional equipment, recipe specification, and new production processes (that would be integrated into the current Phase I operations). In general, these projects are higher value, but also may have increased competition and niche markets that would require comprehensive marketing approaches/roll-out.

- Ice Cream production⁴ -- large tubs for dipping, pints, and soft-serve
- Ice cream mix formulation, especially for soft serve
- Yogurt
- Kiefer
- Other by products from Phase I, e.g., cheese spreads

Phase III

- Expansion of successful marketplace products from Phases I/II – equipment purchases to support expansion
- Elimination of products not successful in the marketplace
- Product development to exploit niches indicated by the marketplace
- Agricultural tourism to provide more profit potential at the creamery store

These suggested phases have immediate implications for construction and equipment – the discussion of facilities and equipment below begin to define some possible options for Phase I → Phase II.

3.1 Facilities

George Farms visited a number of facilities as part of the visit to Wisconsin, was shown schemas of the recently completed LaClare Farms creamery (Pipe, WI) and various facilities issues were discussed with consultant Ranee May during her visit in December 2013 (indicated above). Selected issues for the proposed George Farms creamery facility are as follows (to be further discussed in depth in the Business Plan):

- Final determination of the site – In August, 2013, a number of sites were considered both in Cody and on the road between Cody and Powell, WY. Many of the latter sites were property currently owned by George Farms. The site footprint

⁴ Ice cream does not use substantial amounts of either milk or cream, and could be the centerpiece for the on-farm creamery. George Farms may want to consider moving this product into Phase I, or as the first product in Phase II

(larger than 5 acres), cost, and the need for waste water elimination were primary determinants in selecting current George Farms property. The final site determination and the development of the property (i.e., building footprint, consumer and truck access, possible agritourism issues) are still to be determined.

- Critical waste management issues. During the Ranee May consultancy, county officials were contacted in regards to sewage and waste disposal. It is believed that the amount of waste water that will be generated is significant enough that it would be cost prohibitive to tie into the city sewer system. Holding ponds – understanding that easement for access road to the plant, neighbor concerns and convenience for customers will be critical – were discussed but no definitive decision has been reached to date as to where the best location would be.
- Internal product flow – in general, there should be a product flow that incorporates raw materials and packaging → production → aging/cooling/inventory → distribution/sales to consumers. The product flow should be operationally efficient and incorporate food safety practices (e.g., positive pressure and limited access entry). Internal product flow and food safety also implies that workers take measures for optimum food safety.
- Ease of expansion – most new plants that the authors work with plan one to two expansions as part of the original architectural drawings. This enables the architects and contractors to design walls and utilities that can be modified at minimum cost.
- Immediate cost considerations versus long-term construction – a dairy plant is an environment that is constantly humid; more and more new plants are designing infrastructure and systems that will never rot or rust. This has initial cost implications, but in the case of the George Farms, it is assumed that this value added venture is meant to be generational and therefore built to last.
- Plant design accounting for the creamery store – many cheese and fluid milk plants are created strictly as processing plants, and are not overly concerned with design issues related to consumer needs and esthetics. With the creamery store also on property, George Farms may want to consult with design experts and consider how various value added dairy “destinations” in Wisconsin (like Kelley Country Creamery and LaClare Farms) designed their property.

In creating a creamery store as part of the facility, George Farms creates tremendous opportunities and challenges for its value added business – they include, but are not limited to, the following:

- Selling their own products affords George Farms the highest profit margin. For example, a one pound block of cheese that costs the creamery \$2.50 to make and sells for \$5/lb retail at Albertson’s can be sold at the same \$5/lb retail price in the creamery store; the creamery store profit is \$2.50 minus the cost of running the store (\$1.00-\$1.25 per pound based on other creamery stores).

- George Farms can design the store to tell the story of the farm, family, and creamery. Old photos, stories, newspaper articles, etc., can be displayed and can convey the authenticity of the products and producers.
- The creamery store can offer samples of all products to stimulate sales, underscoring the freshness and quality of the products.
- The store can create all manner and form of incentives for in-store sales, from “buy one get one – BOGO” opportunities to new product trials (e.g. orange cranberry cheddar for the holidays) to frequent customer punch cards.
- Products from other local vendors and/or complementary items for value added dairy can be sold alongside George Farms dairy products.
- Similar to the ice cream operation seen in Wisconsin (Kelley Country Creamery), George Farms can set up a dipping cabinet or a soft-serve ice cream machine and increase sales through a café/ice cream shop venture.
- A drive-through has been well-discussed as part of the venture (similar to what was seen in Wisconsin -- Weber Family Farms) and would be welcomed in all seasons.
- The principal challenge – at least at the outset – is organizing and managing the direct-to-consumer venture as yet another task of the George Farms enterprises. This may include setting up the store as a separate LLC for liability and accounting reasons.

With the increased scrutiny of the FDA, all facilities will need to be carefully planned and within the rubric of the Food Safety Modernization Act (FSMA). This recent federal legislation is still being codified and implications for state inspectors are being worked out. The most certain implication is increased self-monitoring of all production tasks and activities, and the need for careful recordkeeping.

3.2 EQUIPMENT

There are a myriad of issues involving the choice of equipment, and for this study it may be too early to finalize an equipment list. Selected issues and challenges for equipment include the following: new versus used equipment; right-sized equipment versus somewhat larger equipment; functionality of the equipment (batch pasteurizer versus HTST); and many others.

The list of equipment and prices provided below are an aggregation of a number of recently completed cheese plants in the Midwest that have the capacity to process 8-12 million pounds of milk annually (versus the George Farms 14 million+ pounds of milk). Providing the list is meant to stimulate discussion about (a) the price of equipment; (b) functionality; and (c) the enormity of the list, especially minor equipment pieces and installation charges.

Production Equipment for a Small to Medium Sized Operation -- Selected Examples		Notes for George Farms
Separator	\$50,600.00	May need larger
Homogenizer	\$43,000.00	May need larger
HTST	\$89,500.00	
11,000# Cheese Vat	\$24,500.00	
5,000# Cheese Vat	\$21,000.00	Buy second unit during Phase II
250 Gal Cream Tank	\$2,500.00	May need larger
Large cheese Press	\$28,985.00	
40HP Boiler	\$16,000.00	May need larger
Freon Glycol Chiller	\$15,000.00	
COP/CIP w/ Anderson Chart Recorder	\$26,000.00	
Multi-System Control for COP/CIP	\$5,800.00	
DX Cooling Systems	\$34,998.00	
Vertical Air Handling Systems	\$91,725.00	
500 gal Batch Pasteurizer slope	\$33,375.00	
Cryovac Shrink Tunnel	\$9,500.00	
Vacuum Sealer	\$16,450.00	
400 gallon surge tank (bottling)	\$8,000.00	Will need unit considerable larger
400 Gallon water/glycol chiller tank w/ extended legs	\$7,750.00	
Heat Exchangers	\$5,000.00	
Air Compressor	\$3,000.00	
Air Dryer	\$1,200.00	
Air Tanks (2)	\$500.00	
(2) 7 port flow converter	\$3,500.00	
(7) 2" s/s Ball check valves	\$2,450.00	
(2) 2" 2way rebuilt ss plug valve	\$1,200.00	
(2) s/s return pump vents	\$600.00	
2" 3 way plug valve	\$1,200.00	
yogurt cup filler pump	\$3,250.00	Phase II or III
CIP Return #1 Pump	\$1,000.00	
CIP Return #2 Pump	\$1,000.00	
Bottle filler supply pump	\$950.00	
Raw Unload pump - PP1	\$1,000.00	
Glycol Heat Exchanger circ pump - GHEP	\$1,300.00	
Glycol Heat Exchanger circ pump - CWRP	\$1,300.00	
Glycol Re-circ pump	\$950.00	
Glycol pump to HTST	\$950.00	

Whey Transfer Pump	\$1,800.00	
Boiler fill tank	\$2,250.00	
Shell and Tube Stand	\$1,500.00	
COP Tank - 100 Gallon	\$8,500.00	
Electrical Control Panels	\$4,580.00	
2" 3 way valve	\$1,200.00	
Heat Exchangers	\$2,525.00	
2" Divert Valves	\$3,000.00	
Stainless Clamps, Valves, Etc.	\$2,453.00	
Programming of Controls	\$2,605.25	
Programming and Final Assembly Parts	\$7,752.37	
Installation of equipment	\$4,828.00	
Initial Set up of HTST system	\$666.25	
Cup Filler Modern Packaging	\$65,000.00	Phase II or III
Mechanical Equipment and Installation		
Air System	\$19,775.00	
Hot Water/CIP	\$76,115.00	
Cold Water	\$57,260.00	
Steam/Condensate	\$27,700.00	
Product Lines	\$44,400.00	
Insulation	\$69,200.00	
Boiler Equip/Venting	\$39,665.00	
HW Boilers and Pumps	\$56,625.00	
HVAC	\$71,120.00	
Refrigeration	\$7,000.00	
Electrical	\$50,000.00	
Vat Control Panel	\$1,200.00	
Process Control Panel	\$20,000.00	
8000 gal concrete holding tank	\$14,010.24	
Iron Curtain Filter and Water Softener	\$13,268.00	
(2) Stainless 10,000 Milk Silos	\$49,000.00	Consider two 20,000 capacity?
Dairy Fab - Curd Knives	\$3,600.00	
Cooler Panels	\$261,641.00	
(2) Walkie Forklifts	\$6,000.00	
(4) Pallet Jacks	\$1,000.00	
Sub Total	\$1,552,272.11	

The on-farm store can be equipped in a number of different ways – strictly as a store, or with additional equipment/processes that provide the functionality of a café. The following list provides equipment and costs for the café style creamery store⁵:

Café Style Equipment	
Kitchen Hood and make up	\$16,446.20
Gas hook up	\$3,700.00
Ahern Ansul System	\$3,600.00
Fire Extinguishers	\$990.00
Hussman Ice Cream	\$2,060.00
Merchandisers (2) Cheese Display	\$14,323.38
Vertical Refrigerated Case (2)	\$10,590.00
Ice Machine	\$3,054.00
Sinks	\$852.30
Closed Front - Milk/OJ cooler	\$1,496.00
Decorations/Décor/Displays	\$833.82
Tables / Server/ Bench	\$3,013.15
Chairs	\$4,122.51
Dishwasher	\$3,344.00
Dish Table, Pre-Rinse, Faucet	\$782.00
Cold Line	\$2,974.00
Stove	\$2,015.00
Freezer	\$2,682.75
Upright Freezer	\$629.99
Disposal	\$1,324.00
Shelving in Coolers and Dry Goods	\$1,636.69
Coffee Station Supplies	\$100.00
Janitorial - Paper Towel, Toilet Paper, Soap and Dispensers	\$1,054.58
Window Coverings	\$221.23
POS System	\$2,998.00
Office Furniture	\$4,227.00
Sub Total	\$89,070.60

Other equipment that may be needed for operations include the following:

- Approved milk hauling vehicle from the farm to plant
- Waste hauling to fields (if there is no lagoon system)

⁵ George Farms has purchased a retail cooler, freezer display cases, and shelving that can be used in dry storage as part of the Cody Meat Auction in December 2013.

- Self-delivery vehicles – suggested one Sprinter van and one Reefer truck if George Farms intends to self-deliver product within the Big Horn Basin and to selected cities in the state
- Equipment for all building and grounds maintenance needs

3.3. VOLUME OF MILK & PRODUCTION PROCESSES

The George Farm enterprise is not in a position to decrease the size of the dairy herd immediately. An abrupt decrease in herd size would put the family farm in financial jeopardy. As part of the value added production strategy for their initial farmstead production, they will need to talk with Meadow Gold and DFA to see if an arrangement for continued purchase of milk can be worked out, i.e., using a portion of the milk produced for their own value added bottling and cheese making while still selling the milk to another processor. Based on discussions with Rane May, it was felt that the herd reduction would need to take place 2-3 years down the road in order to gear the farm into other revenue producing avenues, prior to the start up of a bottling operation.

A milk usage and production scenario that included keeping all 550+ cows is as follows:

- The farm will produce 2,500-3,000 gallons per day, or 40,000 pounds per day (14.6 million pounds annually)
- Fluid milk sales assumed at 2,500 gallons per day x 8.6 pounds per gallon x 7 days per week = 150,500 pounds per week (see Section 4 below marketing) and 7.826 million pounds annually.
- Milk for Other Products = 129,500 pounds per week. If balance of milk is used for cheese, then 129,500 pounds per week /10 pounds/1 pound of cheese = 12,950 pounds per week of cheese.
- 100 pounds of butter produced requires 2300 pounds of milk
- 12 pounds of milk needed for every 1 gallon of finished ice cream produced

Will the creamery produce the same products season by season? The table below provides a first indication of some possible variation of production based on potential market factors – further quantification of this table will be needed for the Business Plan.

	Winter	Spring	Summer	Fall
Fluid milk production	Strong in local markets; some increase/decrease with school vacations; distribution issues in winter?	Strong in local markets; some increase/decrease with school vacations	Possible increase for flavored milk; increase for tourist	Strong in local markets
Cheese production	Build inventory and age select cheeses	Consistent production	Tourism increase for fresh cheeses	Holiday sales
Butter Production	Somewhat weaker market	Consistent production	Increased production for tourism	Strong market for holiday
Ice Cream production	Weaker market	Build inventory	Very strong potential sales	Seasonal and holiday sales

Yields for Fluid Milk Usage are also a critical component of the butter making. If 4% milk is used in the following examples, based on 100 pounds (cwt), then the following butter fat (for butter production) would be available for butter and ice cream production.

- Whole milk is 3.5% fat, and with 100 pounds of raw milk, 98.6 pounds (11.4 gallons) of whole milk will be produced. This will also result in 1.4 pounds of 40% cream (0.175 gallons). Using the 7.826M pounds x 1.4 pounds cream x 25% assumed whole milk users (see Section 4) divided by 100 (account for cwt), 27,391 pounds of 40% cream would be available for butter and ice cream production.
- 2% milk will produce 94.7 pounds (11 gallons) of final product. This will also result in 5.3 pounds of 40% cream (0.6625 gallons). Using the 7.826M pounds x 5.3 pounds cream x 25% assumed 2% milk users (see Section 4) divided by 100 (account for cwt), 103,695 pounds of 40% cream would be available for butter and ice cream production.
- 1% milk will produce 92.3 pounds (10.7 gallons) of final product. This will also result in 7.7 pounds of 40% cream (0.96 gallons). Using the 7.826M pounds x 7.7 pounds cream x 25% assumed 1% milk users (see Section 4) divided by 100 (account for cwt), 150,650 pounds of 40% cream would be available for butter and ice cream production.
- Skim (less than 0.3%) will produce 90.1 pounds (10.5 gallons) of final product. This will also result in 9.9 pounds of 40% cream (1.1 gallons). Using the 7.826M pounds x 9.9 pounds of cream x 25% assumed skim milk users (see Section 4) divided by 100 (account for cwt), 193,693 lbs of 40% cream would be available for butter and ice cream production.

Approximately 475,000 lbs of 40% cream therefore would be available for butter and ice cream production.

Finally, feed stuffs will have an effect on milk flavor and quality. Distiller Grains include clostridium spores and will result in gas production and stinky cheese. E. coli levels are twice as high in cattle fed distillers grains.

4. Market Feasibility

Determination of the market feasibility for George Farms value added dairy products provides significant challenges as follows: (a) when established, they will be the first value added dairy in Wyoming for many years; (b) local foods popularity in the state is at its infancy – there are encouraging trends, but hard data on local food consumption is rare; (c) local foods consumption by tourists is currently difficult to discern; and (d) with no value added dairies in the state, understanding how and how many WY-based dairy products are sold outside the state is non-existent.

4.1 PRODUCT DESCRIPTION

The value added dairy products for initial roll-out by George Farms are tentatively determined as (a) fluid milk in ½ and one gallon standard jugs; (b) cheddar and similar cheeses to be produced in a number of formats; and (c) butter, which may include hand-rolled butter. An optional fourth product would be premium ice cream (and/or ice cream mix for soft serve) produced in three-gallon tubs and pint containers and sold almost exclusively at the on-farm store. Selected rationale for the selection of these products includes the following⁶:

- George Farms believe that different processing techniques can significantly improve the taste and quality of the fluid milk sold to Wyoming consumers. The milk will be clearly identified as a Wyoming product, which will also strongly encourage sales in the state.
- In producing a range of milks, George Farms can accommodate a number of different consumer tastes and markets. Whole milk (which has consumption rates nationally approaching 25%) is both a consumer and ingredient product. 2% and 1% milk (with national consumption rates over 50% including flavored milks) is a strong consumer product. Skim milk (with national consumption rates of approx 20%) is being strongly encouraged as part of many low-fat diets especially in schools.
- As noted in the section above, bottling fluid milk provides the creamery with considerable butter fat for the production of butter, ice cream, or sale of fluid cream to bakeries, coffee shops, and restaurants.
- Specialty butters are increasingly valued by restaurants and upscale home cooking.
- Cheddar cheese and similar cheeses are familiar to all US consumers, and can be produced in a variety of formats for consumer, restaurant, and ingredient use. The increasing popularity of flavored cheddars, aged cheddars, and specialty cheddars (the co-called sweet cheddars) make variations of this product possible for a range of consumers.

⁶ Further general product information was provided in the George Farms dropbox in the form of cheat sheets.

- As a category, premium ice cream (with higher butter fat and premium ingredients) is increasing in popularity versus commodity ice cream. There are numerous examples nationally of seasonal local ice cream parlors that manufacture their own product, from Mooville and Moomers (in Michigan) to Palace Dairy Farms (in the planning stages in Oregon).

A number of other products and product formats were seen during the July 2013 trip to Wisconsin, a number of products were discussed during consultations and focus groups, and a few – namely cheese curds and kefir – were taste tested using products similar to what George Farms would make. Many of these products are considered Phase II or Phase III, or will be further developed after the creamery is open – comments as follows:

- Milk in ½ gallon pouches is currently used selectively in the Midwest and Canada. The idea was welcomed by some consumers and rejected by others. The equipment and packaging is relatively inexpensive – this may be a product for the future.
- Milk in smaller formats – especially the 8 oz chugs or cartons preferred by institutions – was eliminated given equipment cost and uncertainty with institutional contracts. This may still be a product for the future.
- Cheese curds, popular in the Midwest and found selectively in some Big Horn Basin retail locations, are a very different product when they are “out-of-the-vat” and less than 8 hours old. After eight hours, they are still a popular cheeses snack but without the buttery, moist, and “squeaky” characteristics of the fresh curds. This may be a product that is trialed at the creamery and grows in popularity, especially during the tourist season. Cheese curds were tasted by consumers, and results of those trials are in the Focus Group reports.
- Two or three day old cheese curds can be breaded, deep fried, and sold as a snack or appetizer similar to French fries or onion rings in a restaurant or café setting. The consumers as part of the focus groups and answering the local survey were in general more interested in healthful dairy foods prepared at home, and rated this product low; a different demographic and market channel may rate this product differently.
- Similarly, cheese spreads were rated low by focus groups and survey participants – again a different demographic could be key here. An exceptional cheese spread product like Pine River (see <http://www.pineriver.com/>) may be appropriate for the tourist and holiday markets; the creation of spreads can also use lower quality cheese and cheese trim as the base.
- Kefir was tasted by a focus group (used was the Lifeway brand) and although there was generally a positive response, the product was not universally liked or recognized. With increasing popularity of dairy products that are deemed “good for you”, kefir may be a product that can be further investigated during Phase II and III.
- Although attendance at the 2013 American Cheese Society was informative, discussion during and after the conference surmised that artisan and specialty cheese

products are more likely part of future production for George Farms as the immediate local market would be weak.

In summary with regards to products and feasibility, George Farms should consider the following:

- With a substantial milking herd, George Farms needs to create volume products; therefore fluid milk and cheddar/Monterey jack types cheeses are good choices.
- It is important to have products that can generate cash flow, e.g., fluid milk.
- Conversely, it is important to have products that can be produced in one season (especially winter), can be inventoried for 3-6 months and then sold at a premium price during tourist or holiday seasons (e.g. cheese or butter).
- It is important to capture the local Big Horn Basin and Wyoming-based market to maintain sales and consumer interest throughout the year.
- As much as George Farms branding is important (see below in this section), it will be understood that if the value added dairy product is labeled “produced in Wyoming” , then it is from George Farms. This enables them to create private label arrangements with selected retailers (e.g., Walmart) and have savvy consumers understand where the dairy products come from.

4.2 MARKET DESCRIPTION

As alluded to in Section 2.2, the general setting area provides both opportunities and challenges to George Farms. The market description can be considered in four different gradations: (a) local marketing and sales to residents of the Big Horn Basin; (b) tourist marketing and sales predominantly in the four summer months; (c) marketing and sales to other Wyoming-based markets exploiting the uniqueness of George Farms as a value added dairy processing plant; and (d) marketing and sales to selected markets outside of Wyoming – especially Montana – and possible issues of product and market message.

The immediate local market -- Big Horn Basin

The immediate local market is defined as the Big Horn Basin. Within the basin, there are variations in demographics, purchasing power, etc; for instance, Park County is much higher in income, education levels, etc, and Hot Springs is 75% 2 people or less in family size and an older population. Additional information on county-by-county reaction is summarized in the dropbox documents.

Selected data that provides evidence of the immediate local market include the following:

- The October 2013 Focus Group highlighting opportunities in local business market(s) reflected a strong positive response from local restaurant (5 participants), hotel (1 participant), retail, not including grocery (1 participant), and other specialty businesses

(2 participants – Cody Nite Rodeo, Candy Store). The focus group rated the local creamery/dairy concept good or very good (100% of respondents).

The overall consensus from the group indicated three key points:

- Wyoming/Local product incredibly attractive to the local and tourist consumer. (Authentic, Wyoming-Made Label is KEY).
- These consumers, local and tourists, will likely pay *slightly* more for local products, though not much. (This also goes for the restaurants/businesses that would stock the products).
- The “local appeal” means nothing without a quality product.

Participants indicated that they would likely purchase GF products for resale either as ingredients or packaged goods. The products they would most likely purchase are:

Milk (standard gallons):	33% ranked “10” or “extremely likely to carry”; 11% ranked “8”
Quantity*:	Average 30.5 gallons/week; Total 122 gallons/week
Cheddar Cheese:	11% ranked “10” or “extremely likely to carry”; 33% ranked “8”
Quantity*:	Average 91.7 pounds/week; Total 275 pounds/week
Rolled Butter:	11% ranked “10” or “extremely likely to carry”; 11% ranked “9”; 11% ranked “8”
Quantity*:	Average 37.5pounds/week; Total 75 pounds/week
<i>* Quantity calculated using only those that estimated the weekly purchase volume of these products.</i>	

Participants loved the idea of local dairy products and would be willing to pay *slightly* more, 10-15%, assuming the product quality is equal to, or better than, current offerings. The group also indicated they would be more likely to purchase the products if located conveniently in town, though they would visit the creamery on occasion if there was something else to do; they liked the idea of tours and family activities. The group would like to see the product in Albertsons or Whole Foods. Some in the group expressed concern with Wal-Mart as products may be perceived to have lower quality.

There was a lot of talk about cheese curds in the focus group – several positive anecdotal comments, however, only 22% of participants said they would be likely to purchase cheese curds (total = 41 pounds per week). A couple of the restaurants would be willing to drive to the on-dairy store; however, one indicated they would be

willing to pay for delivery. Businesses would also like help in training staff to better help marketing the product. Marketing materials would also be helpful.

- Retail and other location notes were taken during August 2013 and then again in September/October with selected retailers⁷, and included cursory analysis of the dairy case and – in some cases – one-on-one conversations with retail managers. The notes are attached in the table below, but the following are summary observations: (a) as expected, there are no Wyoming-based dairy products in local retail stores. On a very limited basis, other local products – including a banner advertising local sweet corn – were present; (b) in addition to retail, there are a range of gas station quick marts and small restaurants across the region; (c) in many retail stores, there was a specialty cheese/meat section, usually as part of the deli; (d) partnership/co-marketing opportunities should not be discounted at the local level, e.g., with Northwest College Food Service; (e) Blair’s does not have its own fluid milk brand and may be an opportunity for great local partnership; (f) the same group owns six IGAs in Wyoming providing the opportunity to populate all stores and cross-dock product (to save on distribution costs).

Store	Location	Observations
Wal-Mart (John Dickson)	Cody	Excellent overall reaction to the concept. In favor of local products (make a difference in salability). Approval process through Walmart as an issue. Vendors must have \$1M product liability insurance. Milk, cheese, and cheese curds as excellent product choices (many excellent comments on each product choice for their store). Consumers may pay 10% more; would not pay 25% more. Wants product demos for marketing. Customer demand as the main issue. Wyoming local as the main marketing message. Many additional comments (positive); perfect time to get a local product into Wal-mart.
Albertson’s (Randy Titmus)	Cody	Very Good overall reaction to the concept. In favor of local products. Cost and distribution from the supply are issues. Vendors must have \$1M product liability insurance. Milk, cheese, and rolled butter as excellent product choices. Consumers very likely to pay 10% more; less likely is 25% more. Wants product demos for marketing. Quality as the main issue. Wyoming local as the main marketing message. Many additional comments (positive); good chance of going to other Albertson Stores if successful in Cody.
	Ralston	Heart Mountain Pub; Exxon Quik Mart
Blair’s	Powell	Has a specialty cheese island and cheese curds from

⁷ See dropbox for extensive information and pictures taken in October 2013 under Big Horn Basin Grocery Interviews.

(Jason)		Utah Very Good overall reaction to the concept. In favor of local and natural products. Price and quality will be the key. Cheese, cheese curds, and premium ice cream pints as excellent product choices. Consumers likely to pay 10% more; not likely is 25% more. Wants product demos for marketing. Quality as the main issue. Wyoming local as the main marketing message. Many additional comments (positive); deli manager interested in fresh cheese curds
IGA (Brad	Powell	In August, talked to the owner – on the Chamber of Commerce and had heard of the project. Customers are price sensitive. Three kinds of cheese curds; dairy case plus a small specialty area; no kefir. In September, very good overall reaction to the concept. In favor of local products. Likes all the potential product choices. Consumers might pay 10% more; not likely is 25% more. Wants coupons and signage for marketing. Quality as the main issue. Ingredients/natural as the main marketing message. Demand for product needs to be proven.
	Powell	Exxon; Pit Stop; Maverick; Sinclair; Skyline Café; Frozen yogurt shop; Coffee kiosk; Northwest College (and their food service)
	Byron	One small gas station
Red Apple	Lovell (pop 2360)	
	Lovell	Exxon, Maverick, Sinclair, Conoco, Minchow’s Food Court (was closed), Town has a sugar processing plant (could use local sugar for product)
Ron’s Food Farm (western theme market)	Greybull	Kefir, standard cheese products and brands; specialty cheese/food in the deli area; no special cheeses
	Greybull	Maverick, Conoco, Sinclair, one B&B, Coffee shop; café; Lisa’s restaurant; Cenex “Hub of the Big Horn Basin: -- lots of fossil hunting in the area
IGA	Basin (1200)	Small store – owner Jim and wife originally from MN; price sensitive; Ellsworth cheese curds; buy some specialty cheeses from Costco or Sam’s and re-sell
	Basin	Conoco (Overland Express)

	Manderson	Highway Bar and Café
Reece and Ray's IGA (Valerie)	Worland (5487)	<p>Upscale store; Ellsworth curds; other standard dairy products</p> <p>Very Good overall reaction to the concept. In favor of local products (cired success of Bryant honey). Needs to sell as the key. Milk, premium ice cream, and rolled butter as excellent product choices. Consumers might pay 10% more; not likely at all to pay 25% more. Wants product demos for marketing. Unique product as the main factor for carrying the product. Wyoming local as the main marketing message.</p>
	Worland	<p>Little Chief, Conoco, Maverick, restaurants (Sally's w/ ice cream); Goodies Fresh Food; Cow Camp restaurant; Cenex coop</p> <p>Livestock auctions</p>
Blair's (Tim and Brandon)	Worland	<p>Upscale store; no curds; two keifrs available; small specialty cheese shelf; standard milk brands (should Blair's have its own brand??); not a spectacular cheese case. Coffee cabin outside.</p> <p>Good overall reaction to the concept. Great support of local products and businesses. Price and quality will be the key. Likelihood to carry most product choices. Consumers likely to pay 10% more; not likely is 25% more. Wants product demos for marketing. Quality as the main issue. Wyoming local as the main marketing message. Many additional comments (positive) – very excited about the butter, “squeaky” cheese curds.</p>
Reece and Ray's IGA (Dennis)	Thermopolis (3009)	<p>Small store under renovation. Met Dennis and Kara (managers). Noted that some stores do have the white ½ gallon jugs (versus the translucent); sell a lot of “Amish” butter and heavy whipping cream; buy curds in bulk from Wisconsin and then package and sell (distributor out of Bozeman). Same IGA owners have six stores and cross dock – Worland, Thermop, Buffalo, Harding, Sydney, and Lauren</p> <p>Very Good overall reaction to the concept. In favor of loocal, fresh, and natural products. Price will be the key. Milk, cheese, and cheese curd as excellent product choices (many comments on the products). Consumers might pay 10% more; not likely is 25% more. Wants product demos for marketing. Quality as the main</p>

		issue. Natural as the main marketing message. Additional comments about his customer base
	Thermopolis	Conoco, Maverick, Exxon (travel center), Health Store?
Blair's	Thermopolis	Fresh Local Corn sign at entrance; 2 kinds of kefir; better location than the IGA; Mini-loaf – 2 lb of Tillamook cheese – popular; Only Western gallon milk.
	Meeteetsee	Big Horn Bar/Grill; Conoco; chocolatier

- The on-line survey taken by over 600 people is attached as part of this report. The number of people filing out the survey is indicative of interest and provides a strong sample size for analysis. Almost all of the surveys were completed by consumers in the Big Horn Basin, specifically Big Horn, Hot Springs, Park, and Washakie Counties, meaning that the data provided can give George Farms a good snapshot of its local consumer. It is important to remember that the survey measures current tastes and preferences, which are likely to change over time. The survey also measures only intent and not actual behavior, two concepts that are not always synonymous. That being said, George Farms can use the results to estimate tastes and preferences in both the local Big Horn Basin market and in similar markets in Wyoming and surrounding states. Highlights of the methodology and demographics of the report are follows:
 - There were 264 responses from Cody to the survey. All results of the survey questions answered by Cody residents are in the dropbox.
 - There were 150 responses from Powell to the survey. All results of the survey questions answered by Cody residents are in the dropbox.
 - In total:
 - 95.2% of completed surveys from consumers in the Big Horn Basin
 - 1.2% from other areas in Wyoming
 - 0.6% from Southern Montana
 - 1.6% from other States (Colorado, Idaho, New Mexico, Washington, Utah)
 - 1.4% from invalid zip codes
- Highlights and analysis of that survey include the following (see complete results in the dropbox and summarized in the document “GF Survey results – first level analysis”):
 - Only seven of 587 respondents “poor” or “fair” rated the concept of Wyoming made dairy products. The other 580 ranked the concept good, very good, or excellent (71% excellent). It is virtually impossible to expect better results.
 - Questions and issues raised about the concept stressed local (tastes better, support for local farmers), fresh products, and pricing/where available.
 - There was some interest for grass-fed and non-homogenized products
 - The most likely to purchase products were those identified by George Farms for the initial roll-out – bottled milk, cheese, premium ice cream, and butter.

- Monthly purchase amounts were, not surprisingly, dominated by fluid milk purchases (10-20 gallons per month).
- Most respondents were willing to pay a 5-10% premium on local products. As noted in the appendix (Brief Product Review section), this could mean: \$8.00 - \$8.50 for 2 pounds of rolled butter; \$3.00 per 8 oz of branded cheddar cheese (would be the same price as Tillamook); and \$4.50 for a gallon of milk.
- Respondents considered visiting the creamery store at least once/month, and many considered purchasing a majority of their dairy products from the store.
- It was assumed the Albertsons, Walmart, and Blairs would all carry George Farms products, whether it be as branded product or as a private label venture (more likely in the case of Walmart).
- Some 87% of the respondents were from Cody or Powell, and 77% of the respondents were female. There was an even split between no children (37%), 1-2 children (34%), and 3+ children (29%). The households were predominantly assumed as couples (77% with two people living in the household over 19 years). The average income of respondents included half in the \$25,000-75,000 range and 32% in the \$75,000-150,000 range.

Based on this strong local market evidence and the need to process all of the milk from the George Farms Dairy, the following is estimated maximum sale calculations for the Big Horn Basin. Note that this assumes direct consumer sales, restaurant and ingredient buyers, etc:

- For fluid milk:
 - The survey indicated that the 600+ respondents would buy 2000 gallons of milk per month. The assumption is that each respondent is one household.
 - If there are approximately 90,000 residents in the Basin (using the number from the Wind Big Horn Basin study cited above), one can estimate that this conservatively represents 15,000 households.
 - If 600 households will buy 2000 gallons of milk per month, then it is assumed that 15,000 households may buy 50,000 gallons of milk per month (figuring the proportion).
 - 50,000 gallons of milk per month is 600,000 gallons of milk per year. This is the equivalent of 5,160,000 pounds.
 - When divided by the total milk production of 14.6M pounds, this is 35% of annual production.

- For cheddar and similar cheese
 - The survey indicated that the 600+ respondents would buy 2289 pounds of various cheeses per month. The assumption is that each respondent is one household.
 - If there are approximately 90,000 residents in the Basin, one can estimate that this conservatively represents 15,000 households.
 - If 600 households will buy 2289 pounds of cheese per month, then it is assumed that 15,000 households may buy 57,225 pounds of cheese per month (figuring the proportion).
 - 57,225 pounds of cheese per month is 686,700 pounds of cheese per year. This is the equivalent of 6,867,000 pounds of milk for production of the cheese.

- When divided by the total milk production of 14.6M pounds, this is 47% of annual production.
- For butter and ice cream production:
 - No milk is used in butter production, and a minimal (no more than an additional 3% of annual production) will be used in ice cream production.

In summary, the maximum Big Horn Basin local sales that George Farms can expect from value added products are the use of 85% of their milk. For the first year, use of half of that (40-50%) is a realistic expectation.

Achieving the sales above is going to take a concerted marketing approach directed at the consumers on the Big Horn Basin. Elements of that approach will include, but are not limited to the following.

- A creamery name that identifies with the Big Horn Basin. The suggested “Heart Mountain Creamery” must be further tested and searched for potential conflicts.
- A label that clearly identifies George Farms and the George Family as part of the Big Horn Basin community.
- Marketing materials that are consistent with the logo and label.
- A web site and Facebook that clearly talks to this audience neighbor-to-neighbor
- A marketing calendar of events that provides those close by the opportunity to take advantage of weekly specials and events.
- A marketing and sales plan with each store on the Big Horn distribution route (see table above). This may also include a products plan for each store (e.g., Wal-Mart may want their curds in 20 pound boxes and sold under their own label).
- A distribution “plan” for the region, including self-distribution for this market but also possible partnerships with the IGA store group.
- An approach to media in the area – be it ads, promotions, news, etc
- Decisions about participation in Farmer’s Markets - producers new in the market will often use Farmer’s Markets as an initial way to market products.
- Decisions about product donation policy as this typically present a significant issue for new businesses.
- Decisions about percentage samples for this geographic market – this could be up to 10% to get product in consumers’ mouths
- And more.....

The summer tourist market through the Big Horn Basin

Selected data that provides evidence of the immediate local market include the following:

- Understanding more about tourist behavior in Wyoming is critical for George Farms. A specific event like Cheyenne Frontier Days may justify George Farms becoming a

vendor, understanding that there are increased costs and staffing in servicing specific events.

- Traffic counts at the East Gate of Yellowstone reveal the following: (a) the tourist season begins in May and effectively ends in September, although there are still some counts in October and November; (b) considering the last five years, the average expected counts are 12,000 in May, 32,000 in June, 43,000 in July, 38,000 in August, and 28,000 in September; and (c) A traffic count of 43,159 in July 2013 is calculated as 118,986 total visitors⁸, which means between 400,000-500,000 total visitors are expected through the East Gate annually.

Considerable traffic also enters the park through the south gate (Jackson Hole) and from the west. Selling product to tourists in these markets may be lucrative, but would require key retail and distribution relationships that were not considered as part of this study.

- The 2013 Overnight Visitor Profile⁹ reveals the following: (a) leisure tourism continues to grow in Wyoming, reaching 9.07 million visitors (up from 7.3 million in 2006-2009); (b) visitors to Wyoming are from a national audience; (c) visitors are older, but there is also a focus on couple and children; (d) new visitors continued to increase in 2012-13 to the state; (e) among top ten states visiting Wyoming are tourists from Minnesota and Illinois, presumably many using the East Gate and going through Cody; (f) tourists use the Internet and family/friends as a way to plan their trips to Wyoming. This provides additional evidence for web presence and the potential for building the customer base on an annual basis; (g) tourists most often visit the state by car, but air travel increased in 2012-2013; (h) visiting a state or national park is the most cited marketable trip; (i) total trip expenses include \$173-\$207 spent on meals/food/groceries for their trips over the last five years.
- The Wyoming Travel Impacts 2000-2013¹⁰ reveals the following: (a) total travel spending in WY in 2013 was \$3.187B – the trend line has increased for the last five years; (b) Food and beverage service spending by Wyoming visitors was \$643M in 2013; (c) visitor spending at food stores in 2013 was \$196M.

Based on the evidence that tourism continues to be strong, especially in the May-September timeframe, the following is estimated sales calculations for tourist sales:

- Of the 400,000-500,000 visitors going through the East Gate each year, George Farms will attract 10% to buy their products.
- Of the projected 50,000 tourists, each will average a very conservative \$20-\$30 of purchases during their stay. This may include multiple trips to the creamery store, purchases at retailers, etc, and include milk, butter, cheese, and ice cream.

⁸ See http://www.codyenterprise.com/news/local/article_3c66b5d8-0396-11e3-b8b0-001a4bcf887a.html

⁹See http://www.wyomingofficeoftourism.gov/industry/pdf/homepage/2013VisitorProfile_.pdf

¹⁰ See <http://www.wyomingofficeoftourism.gov/industry/pdf/homepage/2013StatewidePrelim.pdf>

- George Farms will generate \$1-\$1.5M of product sales from tourists only, and should be able to accomplish this by Year 2-3.

Serving the tourist trade would use the equivalent of 2-3M lbs of milk for value added products, which is 14-20% of George Farms milk production.

The market approach to optimize sales for this tourist market is suggested as follows:

- Evaluation of all current Wyoming and Cody tourist publications and travel/tourism magazines to consider how the George Farm product and message is applicable to their information and audience. Evaluate the cost and timing of each “opportunity”
- Consider all Wyoming tourism web sites – local and state – and make sure that George Farm events are published. Consider an advertisement on Facebook.
- Consider a Facebook or social media campaign that targets tourists (e.g., first 25 customers every Friday that show an out-of-state license get 10% off their order at the dairy store).
- Have signage that directs tourists to the on-farm dairy store coming in from the east. Investigate use of billboards.
- Signage at all shops and restaurants in Cody, Powell, and other Big Horn Basin establishments is a must, noting that they serve George Farms products.
- Consider selling products (a) applicable for their time there, e.g., fluid milk; (b) applicable to take back with them; and (c) applicable to ship as gifts.

The Wyoming market (other than the Big Horn Basin)

Selected data that provides evidence of the Wyoming market include the following:

- Wyoming’s population without the Big Horn Basin represents 450,000+ people. This includes the 10 largest cities in the state: Cheyenne (59,466), Casper (55,316), Laramie (30,816), Gillette (29,087), Rock Springs (23,036), Sheridan (17,444), Green River (12,515), Evanston (12,359), Riverton (10,615), and Jackson (9,577).
- Articles like <http://www.strollingoftheheifers.com/wp-content/uploads/2013/04/Locavore-Index-2013-data.pdf> rank Wyoming as number 8 in the locavore index among US states. This accounts for Farmer’s Markets, CSAs and other local foods indicators.
- Local foods seem to be increasing across Wyoming. School districts are serving more local foods.¹¹ The Wyoming Local Foods Project¹² is spearheaded by

¹¹ See http://www.wyomingnews.com/articles/2013/11/03/news/20local_11-03-13.txt

Extension and has included conferences and on-line resources. Most of the attention to date for local foods has been on beef and local vegetables.¹³ Farmer's Market also continue to garner increased attention¹⁴ as do natural foods¹⁵ Virtually all of the major Wyoming papers –as well as those in Montana covering Wyoming news – have featured local foods issues.

- Personal communication between Seth George and those across the state at a cheese course further indicates the strong one-on-one connection that the creamery could have with those wanting Wyoming-based dairy products.

Based on the evidence that Wyoming has a growing local foods movement and that George Farms can be competitive in pricing, the following is estimated sales calculations for Wyoming sales:

- Of the 450,000 non-Big Horn Basin Wyoming residents, George Farms will attract 5% (22,500) dedicated consumers to buy their products on a regular basis. This can be considered the equivalent of 5,000 households.
- Using similar calculations to the Big Horn Basin, it is believed an additional 200,000 gallons of milk and 229,000 lbs of cheese can be sold throughout the state

Serving markets in the state of Wyoming represents an additional 20-28% of George Farms milk production.

Many of the same kinds of market approaches used for the Big Horn Basis could be used/modified for the market approach to optimize sales for this market. The most obvious issue is moving from literally one's backyard to a bit further away. The Wyoming emphasis and branding still works very well. The self-distribution of products will need to be re-thought – at least some distribution partners should be considered given distances, but that means increased costs and a very different pricing structure into distribution.

Non-Wyoming markets

Selected data that provides evidence of the Wyoming market include the following:

- The nearby Montana cities of Billings and Bozeman are the most likely candidates for George Farms sale in terms of distribution and marketing support. These are cities with over 100,000 people, and have strong retail and distribution environments.

¹² See <http://www.wyomingextension.org/eatwyoming/> and http://www.uwyo.edu/ces/pubs/impact_statements/2013/impacts-2013-p24.pdf

¹³ See http://www.casperjournal.com/community/article_e5888755-c7a2-51c0-b27b-e9ff49daa55f.html

¹⁴ See <http://www.wyomingbusiness.org/program/farmers-markets/1302>

¹⁵ <http://www.wyomingnaturally.com/NaturalFood.aspx>

- There appears to be local foods savvy in those markets. The Strolling of the Heifers publication cited above on locavores cites Montana as #6, Idaho as #10, and Colorado as #19. There is a Farm-to-Table movement that appears quite strong¹⁶. A local organic goat dairy – Amaltheia¹⁷ – is cited by many chefs and retailers. Montana has published a booklet on purchasing local food for schools.¹⁸

Based on the population of nearby states, local foods movements in those states, and George Farms competitive in pricing, the creamery – with the formulation of key distribution partnerships – could sell an additional 10%+ of the products (especially cheese and butter) in non-Wyoming markets in Years 1-3.

The principal issues for these markets are:

- The value of local products that fit within Wyoming as Wyoming-local diminishes elsewhere. The emphasis will need to be on family farm, known source of milk, etc.
- Some of the local products planned for the Wyoming markets – especially bottled milk and ice cream – will be more difficult to sell because they are standard dairy products and will have increased competition. They would need to be (a) of exceptional quality and reasonable price; and (b) supported through a very different kind of marketing campaign.
- This may require a different label and different message. It would certainly require different pricing if working through large distributors (with many more contracts, terms, etc). Is the product now “Rocky Mountain” or “Heart Mountain” rolled butter? Is there emphasis on a different kind of cheddar for these markets, or a possible private label deal for Albertson’s or Walmart for cheese or butter products?

In summary, the total use of George Farms milk in the four markets is assessed as follows:

Market	Use of milk
The immediate local market -- Big Horn Basin	40-50% (Year 1) building to max 85%
The summer tourist market through the Big Horn Basin	14-20%
The Wyoming market (other than the Big Horn Basin)	20-28%
Non-Wyoming markets	10% minimum (Year 2 and beyond)
Total	74% Year One → 140% by Year 5

¹⁶ See <http://www.farmtotablecoop.com/>

¹⁷ See <https://www.amaltheiadairy.com/AD/>

¹⁸ See http://www.opi.mt.gov/pdf/SchoolFood/FarmToSchool/Guide_PurchasingLocalFoods.pdf

5. Capital Needs & Investment Schedule

5.1 CAPITAL COST FOR BUILDINGS, EQUIPMENT, AND INVENTORY

Stating the obvious, capital costs for building and equipment can vary widely for a new small to medium sized creamery. Among the most critical cost variations are the following:

- Type of construction – Many small farmstead creameries have used a pole barn-type construction, with wood/steel studded walls, metal outside walls, and so-called dairy boards for the internal walls; this construction is relatively inexpensive but risks water damage, mold issues, etc. for the long term. Block or concrete external walls, with hard foamed internal walls is a better long-term option, but considerably more expensive.
- Type of equipment – as noted in Section 3, the majority of the equipment is stainless steel; the cost is initially quite high, but with regular maintenance, dairy equipment can be used for decades.
- Number of and set-up of rooms can increase/decrease cost. The need for increased segregation to ensure food safety and better quality products have led to separate packaging rooms, cooler/aging spaces, etc.
- Good design dictates planning at least one if not two expansions for the future. Options discussed in the December 2013 session with Rane May included construction of a larger building footprint (and develop it as volume increases), a second story for storage, etc.
- Capital construction cost for small to mid-size creamery building can be \$1.5-\$2.5M. A 10% overrun is often suggested, but many building projects increase 20% or more because of weather, changes in design, changes in product mix, etc.

Capital costs for larger equipment – as suggested by the table in Section 3.2 – can exceed \$1.5M. Capital costs must also include so-called “small ware” which can be substantial – lab equipment, cheese hoops, shelving, etc.

A further iteration of costs can be completed as part of the Business Plan, when final decisions are made on construction and business aspects of the project.

Start-up inventory is dependent on the initial roll-out of products and rate of production. It is suggested that George Farms may want to consider the following for start-up inventory regarding supplies and packaging and reserve \$50-\$75,000 for the initial 2-3 months of production:

- Production inventory for fluid milk

- Production inventory for cheese
- Production inventory for butter
- Production inventory for ice cream
- Product packaging – fluid milk
- Product packaging – cheese
- Product packaging – butter
- Product packaging – ice cream
- Other inventory – this includes clean supplies, spare parts, etc.

5.2 CAPITAL COST FOR START-UP MARKETING & PROMOTION

The capital costs for start-up branding and marketing including the following: (a) refinement of the Business Plan marketing approach into an operational plan; (b) specific activities involved in the creation of a brand identity – logo, label, etc.; (c) creation of marketing materials that are needed for pre-production promotion; (d) additional market testing; and (e) marketing materials that are needed for the initial roll-out of George Farms products.

Including all costs, George Farms should budget between \$75,000-\$100,000 for start-up marketing and promotion. This covers: consulting fees for brand development and design; travel and trade shows; and other marketing and advertising activities. These costs are normal expenses for successfully introducing a specialty value added dairy product into the marketplace.

5.3 START-UP WORKING CAPITAL

To date, the owners have invested in (a) selected used equipment from local sale; (b) costs associated with project planning as part of the USDA Value Added Producer Grant; and (c) considerable in-kind time, especially over the last eight months.

Additional start-up working capital is considered staffing, utilities, licenses, and other operational costs needed prior to the creamery production and generation of profit from value added products. Other similar sized small and medium creameries have budgeted \$100,000+ for pre-production and early production working capital needs.

5.4 TOTAL CAPITAL INVESTMENT

The total capital investment in the project is approx \$4-6M for the pre-production/ capital investment phase of this venture.

Based on the experience of the authors, there are numerous ways that a fledgling creamery can finance the start-up of the venture. Bank loans (often guaranteed through SBA or USDA assistance), state and local economic development assistance, special private/public programs (such as Industrial Revenue Bonds), self-financing, investments of friends and family (non-accredited investment), other investment (accredited investors), etc are some of the ways that this stage is financed. More detail on the capital investment strategy will be part of the Business Plan when better estimates are calculated.

6. Raw Material Supply Potential & Costs

6.1 FORM, QUALITY, AND SOURCES OF MATERIALS

The principal raw material required for George Farms value added dairy products in the farm-fresh milk. An initial analysis of the components of the milk by consultant Ranee May, reveals that the milk is of sufficient quality to create all four initial products chosen by the group.

The source of milk for all George Farms value added dairy products is exclusively George Farms dairy – there are no plans to purchase other milk at this time for their products; when all of the George Farm milk is used for value added production, this option may be considered in the future (e.g., Year 4-5 and within the discussion of expansion of the creamery).

All other sources of raw materials for value added production are available commercially, understanding that packaging materials purchased in bulk will provide that new creamery considerable savings.

6.2 SUPPLY OPTIONS

As noted above, George Farms dairy is the single source of milk for bottled milk, cheese, ice cream, and butter products.

6.3 COMPETITIVE DEMAND

As single source, no competitive demand issues are anticipated.

6.4 PROCUREMENT PRICES

The current procurement price paid by George Farms Creamery to George Farms Dairy should be at minimum market price provided currently by the cooperative.

Many small to medium size farmstead operations – with milk supplied by the farm to the creamery – discuss procurement pricing with their tax accountants in order to provide the maximum profitability (and least tax burden) to owners. This concept should be further discussed in the Business Plan.

6.5 RAW MATERIAL AGREEMENTS AND COMMITMENTS

There is currently no raw material agreement or commitment – should the George Farms Creamery create a separate company from the George Farms dairy (which is advisable for liability concerns), an agreement should be created.

7. Operating Costs & Net Revenue

The analysis below is an initial Profit and Loss five-year pro forma based on the experience of the authors. This will provide a sense of operational costs and revenue expected. Clearly, there are many issues related to market, pricing, products, sales, etc. that need to be further discussed, but this provides George Farms with a discussion option to build from for the Business Plan.

Line-by-line assumptions are provided in attached P&L, but a number of overall assumptions are stated as follows:

- Milk production is estimated at 40,000 pounds per week, or an estimated annual production of 14.6M pounds of milk. The production will remain steady throughout the five year budget shown.
- In year one – and per the market estimates noted above – George Farms will use 75% of its milk for the creation of value added products. By year five, all milk production will be used for value added products. It is assumed – and based on conversations to date with the George family – that the milk not used in the creamery can be sold on the open market (whether that will be through the current cooperative or elsewhere, this is to be determined).
- George Farms will be paid \$18 cwt in year one, and \$20 cwt thereafter. As of the writing of this report, milk prices are high, but \$18-\$20 cwt is a good five-year payment average.
- An estimated debt load of \$350,000 in year one and \$450,000 in year two and thereafter is assumed based on similar sized projects (\$4M total borrowing). As noted above in Section 5, there are a myriad of variables that will ultimately determine the debt load of the project.
- A nominal tax burden should be assumed and be determined.
- Net revenue should be considered as an initial estimate only. Nominal income is assumed years 1-2 (which is normal for value added start-ups) and increases thereafter.

7.1 REVENUE (VOLUME)

Gross sales are estimated at \$4.5M in year one, growing to \$7.7M by year five. This is an estimate by the authors of this report based on their industry experience, and assumes successful sales in each of the planned market channels and geographic regions (see Section 4 above). This also assumes the sale of non-dairy products (water and juices) from the creamery and additional stores sales from other local products.

7.2 COST OF GOODS SOLD

Cost projections for the creation of bottled milk, cheese, ice cream, and butter are based on industry data and knowledge of the authors and will need to be further analyzed in the Business Plan. A general 18% of sales are assumed for this budget for direct product inputs – this is conservative and most likely will decrease with operational efficiency.

7.3 WAGES

Wages – be they for senior-level production managers, production assistants, marketing and sales, or administration – are based on national estimates for creamery personnel. There is an assumption that wages will increase annually. The aggregate cost of wages of employees and consultants is shown on line 66, and includes all costs (FICA, taxes, etc.); this total is somewhat higher than most farmstead creameries given the need to hire senior level production and marketing personnel.

7.4 GROSS PROFIT

The year one gross margin of \$1.1M is a very conservative estimate based on inputs and costs. For year five, a gross margin of \$2.7M is noted and increases are reasonable as efficiencies are sought and markets are maximized.

7.5 OPERATING EXPENSES

The operating expenses are based on production seen at other small and medium size creameries in the US – costs will need to be adjusted for the Wyoming business environment (e.g., utilities, fees, etc.).

7.6 EARNINGS BEFORE INTEREST AND TAXES

Other earnings before interest and taxes will be further examined in the business plan.

7.7 DEBT LOAD -- INTEREST EXPENSE

Debt load and interest expense will be further discussed in the Business Plan – as noted above, an estimate is provided for a \$4M borrowing. The increase from \$350,000 → \$450,000 is due to the assumption that interest only payments will be made in year 1.

7.8 NET INCOME

Although very preliminary numbers, the net profit increases from \$24,000 in year one to \$1.3M in year five. The financial and non-financial (operational efficiencies) aspects of the business that strongly affect is total are as follows:

- Payment to the farm for milk – this is the biggest input, and there is considerable difference paying \$18 cwt and \$20 cwt from the creamery to the farm. Both entities will want to set a schedule based on mutual benefits and profitability, and include tax issues in the discussion.
- Employee operational efficiency should come with time.
- Marketing efficiencies will also come with time.
- The assumption with this exercise is that George Farms will want to sell its products at the highest margin possible – first through their own store, second through trusted partners in the Big Horn Basin, and third through distribution.

Proforma Profit and Loss Scenario
George Farms Feasibility Study

Year 1	Year 2	Year 3	Year 4	Year 5
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Assumptions

1	Total Milk production (lbs)	14,600,000	14,600,000	14,600,000	14,600,000	14,600,000	Assume 40,000/week constant
2	Milk for value added venture	10,950,000	11,680,000	13,140,000	13,870,000	14,600,000	75 --> 80 --> 90 --> 95 --> 100%
3	Milk for fluid market	3,650,000	2,920,000	1,460,000	730,000	-	25 --> 20 --> 10 --> 5 --> 0%
4							
5	Production:						
6	Fluid milk (gallons)	636,628	679,070	763,953	806,395	848,837	8.6 lbs/gal
7	Cheese (lbs)	547,500	584,000	657,000	693,500	730,000	10:1 milk/cheese
8	Ice Cream (gallons)	-	1,000	25,000	35,000	50,000	Experiment w/ product; full production at in creamery store by Year 3
9	Butter (lbs)	100,000	100,000	125,000	150,000	175,000	Cream for butter and ice cream; also sell cream as ingredient
10							
11							
12	SALES (see pricing options below)						Pricing options based on current market
13	Store Sales - GF dairy products	\$ 311,576	\$ 529,732	\$ 752,311	\$ 1,203,267	\$ 1,705,100	5-->8-->10-->15-->20% sales; includes tourist
14	Store Sales -- GF non-dairy (water & juice)	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 200,000	to be determined
15	Store Sales - other	\$ 77,894	\$ 158,920	\$ 300,925	\$ 541,470	\$ 852,550	Increase 25 -->50% for other products
16	Farmer's Market and other direct sales	\$ 186,945	\$ 132,406	\$ 74,978	\$ -	\$ -	Sales nominal -- for in-state marketing; 3-->2-->1%
17	Self Distribution Sales	\$ 1,943,116	\$ 2,321,990	\$ 2,922,799	\$ 3,425,969	\$ 3,967,483	Primarily Big Horn Basin; 40-->45-->50-->55-->60%
18	Distributor Sales	\$ 1,967,066	\$ 1,807,503	\$ 1,775,722	\$ 1,456,722	\$ 1,031,669	WY state and non-state distribution; 52-->45-->39 -->30-->20
19	Total	\$ 4,536,597	\$ 5,050,551	\$ 5,926,736	\$ 6,777,428	\$ 7,756,801	
20							

21	Purchase of on-farm milk	\$ 1,971,000	\$ 2,336,000	\$ 2,628,000	\$ 2,774,000	\$ 2,920,000	\$18 first year; \$20 cwt paid to GF Farm production
22	Creamery processing inputs	\$ 793,567	\$ 862,494	\$ 994,646	\$ 1,095,472	\$ 1,206,765	Est 18% of sales for ingredients, packaging (production not complex)
23	Non-GF store inputs	\$ 31,158	\$ 63,568	\$ 120,370	\$ 216,588	\$ 341,020	40% of Store Sales - other
24	Creamery processing labor	\$ 300,000	\$ 350,000	\$ 350,000	\$ 400,000	\$ 425,000	6 FT increase to 12 FT
25	Waste/Samples - all enterprises	\$ 272,196	\$ 202,022	\$ 118,535	\$ 67,774	\$ 77,568	6-->4-->2-->1% for samples/product demos
26	Total Cost of Sales	\$ 3,367,920	\$ 3,814,083	\$ 4,211,551	\$ 4,553,835	\$ 4,970,353	
27							
28							
29	Gross Margin	\$ 1,168,677	\$ 1,236,467	\$ 1,715,185	\$ 2,223,593	\$ 2,786,448	
30							
31	Marketing and Sales Expenses						
32	Marketing Payroll	\$ 300,000	\$ 325,000	\$ 350,000	\$ 350,000	\$ 375,000	5 FT increase to 10 FT; includes store
33	Sales & Distribution Personnel Costs	\$ 70,000	\$ 84,000	\$ 100,800	\$ 100,800	\$ 100,800	Driver(s) and others
34	Marketing Events; Direct Costs	\$ 100,000	\$ 110,000	\$ 121,000	\$ 121,000	\$ 121,000	All events and materials; advertising
35	Travel/Entertainment	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	FM, store demo travel included
36	Total Marketing & Sales Expenses	\$ 495,000	\$ 544,000	\$ 596,800	\$ 596,800	\$ 621,800	
37	Marketing & Sales Percentage	11%	11%	10%	9%	8%	
38							

39	G&A Expenses						
40	G&A Payroll	\$ 80,000	\$ 88,000	\$ 96,800	\$ 106,480	\$ 117,128	Management (SR); IT; other
41	Professional Services	\$ 30,000	\$ 10,000	\$ 5,000	\$ 5,000	\$ 5,000	Acct, legal, other business
42	Depreciation						to be determined re Business Plan
43	Auto/Delivery Truck - distribution costs	\$ 23,296	\$ 25,626	\$ 28,188	\$ 31,007	\$ 34,108	800 miles/week
44	Bank Charges	\$ 500	\$ 505	\$ 510	\$ 515	\$ 520	Interest + line of credit fees here
45	Cleaning Supplies	\$ 8,000	\$ 8,000	\$ 10,000	\$ 10,000	\$ 15,000	
46	Computer Expense	\$ 8,000	\$ 8,000		\$ 2,000	\$ 2,000	
47	Electric	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	
48	Propane (heating/cooling)	\$ 40,000	\$ 40,400	\$ 40,804	\$ 41,212	\$ 41,624	
49	Insurance	\$ 15,000	\$ 15,000	\$ 20,000	\$ 20,000	\$ 20,000	
50	Licenses/Permit Fees	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	
51	Maintenance	\$ 4,000	\$ 8,000	\$ 16,000	\$ 16,000	\$ 32,000	
52	Office Equipment	\$ 2,000	\$ -	\$ 8,000		\$ 2,000	
53	Office Supplies	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	
54	Other Office Expenses	\$ 2,000	\$ 2,020	\$ 2,040	\$ 2,061	\$ 2,081	
55	Pest Control	\$ 10,000	\$ 10,100	\$ 10,201	\$ 10,303	\$ 10,406	
56	Postage/UPS/FedEx	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	shipping samples
57	Rental - equipment	\$ -	\$ -	\$ -	\$ -	\$ -	to be determined
58	Software & support	\$ 5,000	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	inventory software; marketing
59	Subscription/dues	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	
60	Telephone/Internet	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	
61	Testing	\$ 4,000	\$ 4,040	\$ 4,080	\$ 4,121	\$ 4,162	
62	Water/sewer	\$ 10,000	\$ 10,100	\$ 10,201	\$ 10,303	\$ 10,406	
63	Total G&A Expenses	\$ 298,796	\$ 289,291	\$ 311,325	\$ 318,502	\$ 355,936	
64	G&A Percentage	7%	6%	5%	5%	5%	
65							
66		\$ 780,000	\$ 857,000	\$ 902,600	\$ 962,280	\$ 1,022,928	Salaries/consultants

67	Other Expenses						
68	Other Occasional Payroll						
69	R&D Consultants						
70	OtherExpenses						
71	Total Other Expenses						
72	Other %						
73							
74	Total Operating Expenses	\$ 4,161,716	\$ 4,647,374	\$ 5,119,675	\$ 5,469,137	\$ 5,948,089	
75							
76	Profit Before Debt Service and Taxes	\$ 374,881	\$ 403,177	\$ 807,060	\$ 1,308,291	\$ 1,808,712	
77							
78	Creamery Principal and Interest	\$ 350,000	\$ 400,000	\$ 450,000	\$ 450,000	\$ 450,000	Land rental also; Cody Forward??
79	Income & Property Taxes Incurred	\$ -	\$ -	\$ -	\$ -	\$ -	to be determined
80	Principal, Interest, and Taxes	\$ 350,000	\$ 400,000	\$ 450,000	\$ 450,000	\$ 450,000	
81							
82	Net Profit	\$ 24,881	\$ 3,177	\$ 357,060	\$ 858,291	\$ 1,358,712	
83							
84							
85							
86	Fluid Milk pricing	Direct		\$ 4.00	conservative pricing - could increase 10%		
87		Self - Distrib		\$ 3.25			
88		Distributor		\$ 2.50			
89	Cheese Pricing	Direct		\$ 6.00			
90		Self - Distrib		\$ 4.50			
91		Distributor		\$ 3.50			
92	Ice Cream Pricing	Direct		\$ 30.00			
93		Self-Distrib		\$ 15.00			
94	Butter Pricing	Direct		\$ 4.00			
95		Self - Distrib		\$ 3.25			
96		Distributor		\$ 2.75			

8. Summary – Feasibility of the Venture & Recommendations

George Farms is very early in the due diligence process to determine their willingness to produce value added dairy products and – more importantly at this point – determine whether a \$4-6M investment is feasible for them. Selected business issues and recommendations to date are as follows:

- The product mix chosen as a starting point for production – bottled milk, cheddar and similar cheeses, butter, and possibly ice cream – is technically straight-forward and suited to local Wyoming markets. Each product also has variations for different market channels, e.g., learning the process for cheddar cheese means the potential for making cheese curds, a range of block formats, a range of flavors, and cheese spreads.

The challenge for selling the more standard products, however, is marketing them outside of the local area. As indicated in the report, determination of markets outside of Wyoming is more problematic at this early stage.

- With the milk from 550+ cows, George Farms is legitimately concerned with volume production. There is strong indications that 75% of their current milk supply can be produced and sold into value added products in year one, and with effective marketing, those totals can increase until all milk is used for value added production by – at the latest – year five. The key for George Farms is to clearly understand the differences in the various markets – local versus tourist versus state versus regional – and create business and market systems that allow them to be successful in each, and therefore overall profitable as a creamery.
- The question of seasonality for George Farms affects production, sales, and cash flow/business dynamics. The winter season may be an ideal time to produce and stockpile cheddar cheese for sale during the summer; this may create cash flow shortages and storage/aging issues for the creamery. The spring season may mean an increase of milk and fresh forages; this may be ideal for certain cheeses and butters, and a time to produce and stockpile ice cream for summer sales. With the maximum number of consumers available, the summer season is a chance to create fresh products (e.g., cheese curds) and aggressively sell off inventory. Finally, the fall season provides an opportunity to create fall and holiday variations of dairy products.

The most obvious business implication of seasonal adjustments is the need for coordination between the production and marketing/sales staffs.

- Respondents to the on-line survey indicated very clearly that local foods in the Big Horn Basin were important, and that they welcomed a Wyoming-based dairy. The support for local does come with a number of caveats based on the responses: (a) some respondents indicated that price would be a consideration, and there was even an expectation that prices may be lower because there were fewer distribution costs; and

b) there is an overall expectation for quality products, with some respondents voicing their desire for more all-natural characteristics (e.g., raw milk). It will behoove George Farms to very clearly and effectively communicate their value proposition (characteristics of their products that add value) to consumers and then verify whether support remains high for local sales.

- Tourism indicators appear strong for the foreseeable future, and a current strong national and international economy supports this notion. Like the local market, communicating the George Farms message to tourists – whether they come through the airport or by land – may provide initial challenges but should build momentum on a year-to-year basis.
- The strong indicators for Wyoming as a local food state are encouraging, and George Farm’s unique position as the only dairy processing plant in the state provides great potential for cities like Casper, Cheyenne, and elsewhere. As with Big Horn Basin consumers, there will be an expectation for quality, service, availability through numerous markets, etc.
- Without product taste testing and considerable direct-to-consumer market analysis, understanding and determining regional markets is currently difficult to determine. This study offers a number of suggestions/starting points for consideration, but only after local Big Horn Basin, tourist, and Wyoming state markets have been fully exploited. The authors further hypothesize that George Farms may not be able to sell its complete line of branded products outside of the state, but may want to consider private labeling and specialized products and/or formats (especially for rolled butter) for distant markets.
- Success in all markets depends on the marketing and branding approach for George Farms. There is certainly rationale for including prominent recognition of Wyoming in the creamery logo and label. There is further rationale for sharing with consumers the George Farms story and how that manifests itself into fresh farm products. Color schemes, design, third-party certification, nutritionals, and key marketing messages will be critical for label development. Testing the brand and label with consumers and retailers prior to release is a prudent investment.
- Creating a tiered pricing structure will be fundamental to the success/profitability of George Farms. As the only dairy processing plant in Wyoming, it is critical that it consider both the prices of their competition and their own costs of production before sharing their pricing structure with distributors, local retailers, and consumers. It is also critical that George Farms remember its uniqueness in the marketplace as a dairy producer, and clearly understand that as a premium product it will not be able to exclusively price conscious consumers.

The pricing structure is also related to its sales strategy – the more products that it can sell at a higher margin, the better for their business bottom line. This means (a) selling more locally (reduced distribution and transactions costs); (b) selling more at the creamery store (where the creamery captures the distributor/retailer margin); and (c)

understanding distribution costs and issues (e.g., delivery of a full truck, possible back-hauling, etc).

- With no expertise resident in the family or the area regarding cheesemaking and dairy production, the technical production issues are currently daunting for George Farms. It will be important to (a) invest in quality technical personnel at the start of the project; but (b) have a plan to train local residents in production techniques and create a cadre of dedicated employees within five years.

In parallel, there must be a discussion in the George family in the near future as to what family members will (a) continue to work exclusively with the production side; and/or (b) become key components in the value added side. Based on the author's observation of numerous family farms starting value added businesses, there are always one or two family members that dedicate themselves to the creamery, either on production or marketing.

- It is too early in the business process to discuss specific equipment – this will be specified in the Business Plan. From the tour of Wisconsin and various discussions with technical experts, George Farms appreciates that there are a myriad of options as related to equipment. Should one buy larger sized equipment and “grow into it”, or should there be an expectation to adjust the equipment as volume increases (year 3-4)? What are the benefits of new equipment (like systems designed by Darlington Dairy Supply) versus purchasing rehabilitated equipment? Without in-state vendors and service, what should George Farm's strategy be for purchasing and maintaining what Darlington may be \$1.5M of equipment?
- The principals of George Farms have now seen a number of cheese and value added dairy plants from their tour of Wisconsin. With the decision of having a processing plan and creamery store on farm property on Highway Alt 14, a next level of decisions will need to be made regarding (a) functionality for the production enterprise; (b) initial size and planning for future expansions; (c) the transparency of the production process to the public (e.g., viewing windows, tours, etc.); (d) the general structure of the building, including cost elements, food safety concerns, etc.; (e) administrative and storage spaces; (f) the relative placement of the creamery store vis-à-vis the production space; and others. In the experience of the authors, there are typically three or four drafts of architectural plans drawn before there is final agreement for construction.

Additionally, with the inexperience of Wyoming-based contractors in the construction of dairy plants, there may be wisdom in having the draft plans reviewed by general contractors with dairy processing experience.

- The decision to create a creamery store as part of this project adds excitement and challenges to the project. The store should be considered a separate business from the creamery, especially if (a) significant outside products are sold; or (b) there is a service element (ice cream shop, café) to the creamery store. As indicated in this report, the creamery store provides the potential for increased profitability, marketing opportunities, and community outreach.

- The notion of partnerships in all aspects of the George Farm creamery is woven through this report. There will certainly be marketing and distribution partners in the start-up of the venture. There may be multiple suppliers of production supplies, packaging materials, and labels. There may be multiple funding partnerships. Good management dictates that each partnership will need to be managed, nurtured, and evaluated on a regular basis.
- This report provides a very basic discussion of pre-production capital investments – it is expected that the Business Plan will provide a further iteration when key decisions are made. The authors do wish to emphasize that undercapitalizing the project will severely hamper the success of the venture – it is better to find the additional \$100,000 for needed working capital and wait 4-6 months to start construction than to assume that initial sales will be used to make up the difference.
- This report also provides a first cut at operational financials as a discussion piece and template for the upcoming Business Plan. The authors expect this spreadsheet to generate significant discussion –and it should. The owners of George Farms should have a clear expectation of profitability at the onset of the venture and into at least the first five years.

9. Appendices

James D. Gage is business consultant that specializes in value added dairy and local foods issues. He is the past manager of the Wisconsin Dairy Business Innovation Center, and consulted with the organization for eight years. He has worked on business and marketing issues with over 200 value added dairy clients over the last 10 years, conducting market research, facilitating meetings, writing business plans and grants, and providing general management services. He recently served as the business-strategist in residence for the American Cheese Society (2013) and in the president of the Board of Directors for Town and Country Resource Conservation and Development (RC&D) Council. He has worked extensively with the private sector high technology community as part of the University of Wisconsin's Environmental Remote Sensing Center, and has been part of agricultural research and management consulting teams in more than 40 countries worldwide while working with the Land Tenure Center (University of Wisconsin), the International Development Management Center (University of Maryland), and the Peace Corps. Mr. Gage holds an MS in Horticulture and Plant Physiology from University of Maryland- College Park, and a BA in Political Science from Fordham University.

Janet Ady (need resume para)

Ranee May (need resume para)

All technical reports are available to the reader in the George Farms dropbox. This includes, but not limited to, the following:

- Brand development resources
- Critical checklists
- Technical topics of interest
- Standards of identity
- On-line and other resources
- HAACP information
- Big Horn Basin Grocer interviews
- Product Cheat Sheets
- Survey Results
- Details of July 2013 Value Added tour
- Multiple files with specifics on survey summary by categories

Additional information may also be found in the correspondence between the consulting team and Seth George (as the George Farms contact for the project).