

# Niche Markets



## Assessment and Strategy Development for Agriculture



Western Extension Marketing Committee

University Center for Economic Development  
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# Niche Markets: Assessment & Strategy Development for Agriculture



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## What are Niche Markets? What Advantages do They Offer?

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### Overview

Niche markets are an attractive opportunity available to small businesses forced to compete against the scale economies that larger competitors are able to achieve. In the food sector, organics, local products, heritage varieties, biodynamics, and humanely treated livestock are a few of the alternative product choices sought by specific consumer segments. The choice to pursue a niche marketing strategy will not guarantee success, and, similar to any business decision, requires critical assessment. Exploring niche markets is representative of the set of management choices every agricultural operation faces, as niche marketing provides creative managers with a means to use new and untapped resources while creating new revenue streams. Doing so successfully requires significantly different management skills and marketing strategies.

This fact sheet defines niche markets, outlines the steps to evaluate an operation's current strategic position, examines how a niche market focus might affect that position, and finally, sketches out the important components of a niche marketing plan.

Essential elements of a niche marketing strategy to consider include:

- Know the customers. Segmenting the overall market allows the business manager to target what the business venture can offer.
- Set clear goals and objectives for what the business hopes to achieve by following a niche marketing approach: Reach new customer segments? Lower marketing costs? Secure premium pricing?
- Does niche marketing match up with the resources, capabilities and preferences of the venture?

### Understanding Niche Markets

Niche markets consist of groups of consumers (market segments) within the larger marketplace who have similar demographic, buying behavior, and/or lifestyle characteristics. Examples include food buyers who prioritize quality assurances and source of production, and consumers who seek an easy preparation entrée available in convenient form. Even consumers with the same buying behavior may have differing motivations (which are essential elements to know for marketing and promotion). For example, organic consumers used to be identified by their concern for their environment, but now there are entirely different segments of consumers who buy organics because they perceive those foods as having higher nutritional benefits. Understanding target consumer segments is a crucial factor in determining whether an operation has the resources, interests, and business elements necessary to meet the needs of prospective customers.

Once the like-minded consumers have been identified, it may be helpful to name or label them (called "clustering"), as a way of facilitating targeted marketing activities and "branding"



of the venture's offerings. Clustering of consumers also allows a business to plan more targeted and effective marketing activities, especially if the venture understands the consumers' motivations for buying products or visiting specific shopping or tourism venues. In addition, consumer clustering may also help with estimating potential visitor numbers and appropriate price points for different customer groups. For example, consider a venture that wishes to market to a customer group that prioritizes convenience. If it takes more marketing resources to get the venture's product in ready-to-eat form or to nearby markets (farmers' markets or direct deliveries), then the prices charged can be higher for this customer group to offset the additional resources. In comparison, this method of marketing would not work for a customer group that prioritizes price and is willing to go out of the way to locate lower-cost items (i.e. bulk prices for ranch-purchased freezer beef).

After the niche is identified, the next step is to find this buying public and grab their attention. This takes thoughtful promotional planning and development of messages to connect with potential buyers. Marketing materials, such as websites, brochures, personal communications, packaging, public image, etc., need to integrate credible claims, motivational messages, and consistent images to connect to (and build loyalty with) niche market consumers. In summary, consider these three rules for niche marketing, from Entrepreneur.com:

1. Meet the market's unique needs
  - This may require consumer and/or market research
2. Say the right thing
  - Develop promotional materials targeted at the motivations and interests of the consumer segment
3. Test market
  - Start small with minimal capital investment, which may require partnering with established retailers or partners

### **Considering Niches as a Business Opportunity**

Many times a market, business, or personal event forces producers to make important decisions about the future direction of their agricultural operation. Niche markets are particularly interesting for operations looking to grow or change. One potential decision may be to grow the size or scope of the operation. Generally, goals for growth involve increased sales, a larger set of employees or capital resources (land, buildings and other improvements), or the diversity and number of enterprises integrated into the operation. The desire for growth is usually driven by optimism for market opportunities, or a new resource (or previously untapped resource, such as the business skills of a family member).

Other operations may seek to improve or stabilize their financial returns rather than grow. Most change requires some form of diversification or development of new revenue streams. Most niche-driven change is driven by **STRONG** indicators of changing consumer tastes (on the demand side) or changing personnel interests of family members or long-term employees (on the business organization side).

*“Opportunity is missed by most people because it is dressed in overalls and looks like work.”*  
**Thomas Edison**



No new business direction will come without much planning and thoughtful consideration of the desired outcomes. Whether growing sales and enterprises to meet new financial goals, increasing direct sales to attain personal goals, providing consumer education to develop a loyal customer base, or beginning organic production as a reaction to evolving values and perceptions about environmental stewardship, the internal business intentions must be matched to the external niche market opportunities. If the internal desired outcomes align with available opportunities, it may be time to develop a sustainable and effective plan for action. Any plan directed at niche markets should include:

- Clear and consistent image/themes
- Alignment with business structure/culture
- Clear links between strategy and actions
- Focused attention and action where needed

## STRATEGIES → ACTIONS → OUTCOMES

### **A Strategic Assessment of the Firm within the Broader Industry**

What does the market suggest? Is the market signaling growth in an existing niche, or are there possibilities to develop an entirely new market niche? If only a small modification is necessary, the operation may, for example, be able to follow the success of other enterprises with only minor adjustments to the target niche (maybe organic and heirloom fruits instead of just organic) or serving the same niche in a new geographical area (i.e. the operation's local food system).

Another important task is assessing the operation's available resources. If it is determined that the operation is poised to enter the niche market, it will be necessary to identify any new or slack resources that will allow for the new niche activities and/or growth. Beyond resources, an operation considering niche markets must also assess its capabilities, competencies and competitive advantage. The firm's capacity to deploy resources to achieve a desired end state is the first managerial requirement, as it addresses the resource and technical aspects of how well a firm can execute a production and marketing plan for the niche. The primary base for the firm's capabilities is the set of skills and knowledge of its employees.

Once the operation's capabilities have been determined, the next consideration should be its core competencies. These competencies are generally a result of deploying resources using the firm's capabilities. For example, if a farm has a beautiful natural resource base, but is not making the farm available for agritourism, then the farm does not have a core competency. However, even if a farm has a strong capacity for deploying resources, that does not mean it has a competitive advantage. Only a core competency that is unique to the firm will help to create a sustainable competitive advantage (for more information on competitive advantages, please see fact sheet WEMC FS#5-08, "Strategies for Competitive Advantage," in this publication).

Many firms focus on three or four core competencies to differentiate themselves, establish customers within the target niche market, and develop a competitive advantage. Given this, the operation should explore the three or four competencies it has, and consider whether those areas are flexible and responsive enough for the niche market(s) under consideration. To be effective, these core competencies must be distinctive and the capabilities should be performed better (or in a more unique way) than competitors.

In short, identifying core competencies is a key element in the development of a sound marketing strategy, especially for niche markets. Emulating successful models can be lucrative, but the best margins are often in newly created products and services. Remember that innovation can be based on the actual product (new offering), or in how it is marketed (cooperation with existing retailer, bundled with agricultural experience, partnered with credible food or agriculture “brand”). Some examples of core competencies are:

- Expertise in rare production protocol (biodynamic, heritage varieties)
- Organics, humanely raised livestock, grass-fed meats
- Superior personnel and/or customer service (especially services/agritourism)
- Alliances with established marketing partners (chefs, tourism hotspot)
- Unique resources (natural, human, historical)

### **Five Stages to Fully Address the Niche Opportunity**

There are five stages to consider when attempting to address niche marketing opportunities. These stages are strategic planning, defining the mission and objectives, strategies and action, monitoring key projects and objectives, and organizational realignment.

#### *1. Strategic Planning*

Strategic planning encompasses many of the issues discussed above, including the assessment of market opportunities, as well as an inventory of internal resources, values, potential strengths/capabilities (addressed in more depth below), and any weaknesses/shortfalls of the current operation. In short, the overall strategy provides a “road map” to attaining the objectives of the operation and its owners, while staying true to their vision and mission.

#### *2. Define Mission and Objectives*

The mission is the operation’s statement about why it exists, and sets the tone of what the company and its products’ image should be at the very highest level of the operation. There should be a broad-based buy-in to this mission from owners, employees, other important stakeholders, and maybe even targeted customers. In essence, the mission explains the culture of the business to both internal players and external consumers.

The goals/objectives start narrowing the mission into workable pieces and set a direction for where different elements of the business should or could be to effectively deliver on the mission of the operation. Although these goals should continue to be forward thinking and broad-based, stakeholders should be able to see directed resources, market-driven actions, and business activity changes that may emerge to support the strategic direction chosen by the operation’s management.

#### *3. Strategies and Action*

To begin taking specific actions, with timelines and measurable outcomes that will support the broader mission, strategies, and goals of the business, it may be most effective to develop a work plan. That plan should include a key personnel list, timeline for the activity, a list of resources or budget needed to execute the plans, and any other relevant information (partners, pertinent legal or regulatory issues, and connections to other pieces of the work plan). Although a sufficient level of detail on all the actions to be taken may seem overwhelming, it will provide a realistic inventory of what needs to be accomplished and divide the actions into small enough

units to facilitate timely action (rather than inaction due to being overwhelmed by the scale of larger goals of the company). Remember that actions are both effective and realistic steps to achieving the operation's strategy. In short, this step requires the operation to build a plan of execution.

#### *4. Monitoring Key Projects/Objectives*

Monitoring a firm's progress towards its goals is one of the most crucial actions during the first years of a new (or significantly changed) enterprise. Determine key projects and areas of potential success within the work plan established above, and then decide on specific measurable elements that will allow the operation to monitor success. These elements should not all be financial indicators, as too many businesses focus on financial goals before they can realistically be met. In addition to monitoring sales growth, visitor numbers, and profits, the operation might also monitor full deployment of resources (land, buildings, employees, etc.), customer satisfaction and return visits, or employee feedback on their participation in the enterprise.

As part of monitoring, the operation should report on key strategies and objectives, following up on any deadlines or specific measurable elements that were set. There should be clear accountability to a person in the organization (or key partner), while being cognizant of guarding against overly loose or tight management (since both will stymie leadership development). Each step in monitoring and redirecting should be used to maintain forward motion towards attaining the change or growth goals of the operation.

What signals will trigger changes or growth for the enterprise? This is an important question since the early years of a new niche marketing plan will require great flexibility and adaptive management responses. The frequency of monitoring will also affect how much time is given for marketing efforts to prove themselves, and how quickly the operation can respond to consumer wishes.

#### *5. Organizational Realignment*

In order to clearly link the objectives and strategies of any new niche venture, it is likely that the management will have to consider an organizational realignment of resources, human capital and marketing efforts. To be successful in niche marketing, it is important to align the structure and culture of the business and the personal lives of the owners in ways that are compatible with the niche the business hopes to operate within. This may include a change in the levels of family involvement, the privacy or solitude available on the farm or ranch, the choice to "brand" the owners' family heritage and approach to farming, or even relinquishing control of some business activities to marketing or community partners.



## The Decision to Market in a Niche

Even after developing a plan to enter a niche market, it is important to pick one point in the planning process to finally decide whether the new niche venture is feasible, and if so, fully commit to the plan. There are a number of elements that should enter into that final decision:

- Acknowledge the present
- Be aware of intent/vision
- Control dreams:
  - Manage within means
- Determine the risks

Note that the first two are *deliberate visioning* and the second two are *bringing realism*.

In the end, the management and stakeholders of a farm or ranch must consider how to answer the question of whether their operation needs growth, change, or exit from the market. Niche marketing is only one of the potential enterprise diversification strategies that may affect this “big picture” thinking.

## References

Gordon, K.T. (2002). “3 Rules for Niche Marketing.” Entrepreneur.com. Online. Retrieved May 2008 from <http://www.entrepreneur.com/marketing/marketingcolumnistkimtgordon/article49608.html> .



# Evaluating Market Size

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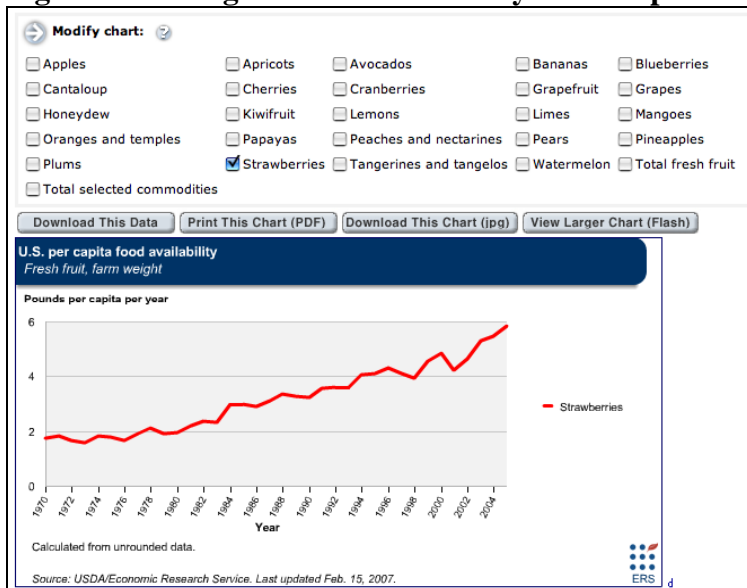
## Overview

One of the most important tasks in evaluating the economic viability of a niche market is determining the size of the market. If the market is too small, there will not be enough sales available to cover startup, capital, and operating costs. Conversely, if the market potential looks quite large, it is not a niche market and direct competition in the form of commodity markets will likely prevail, unless a competitive edge that others cannot replicate can be created. To determine the market size of a niche product, information regarding typical consumption patterns and consumer demographics proves very useful.

## Consumption Considerations

Average annual U.S. consumption levels of several hundred foods are readily available from the United States Department of Agriculture’s Economic Research Service (USDA-ERS) for years back to the early 1900s for some foods (see the “More Information” section at the end of this fact sheet for the Web address for this service). Users can download data in spreadsheets or make custom queries for specific food groups, commodities, and/or years. For example, Figure 1 shows how a query of “fresh fruit by farm weight” for strawberries can provide a graphical display of the annual average consumption of fresh strawberries, in pounds, consumed per person in the U.S. from 1970 to 2006 (the years for which data is available varies by product). This information can be used to help producers determine whether the market size is right for the niche product or operation under consideration.

**Figure 1: Average Annual Strawberry Consumption Data from USDA-ERS**



Consider the example of a producer contemplating turning a portion of an existing strawberry operation into a U-pick strawberry patch on a three-acre field, with expected production around 10,000 pounds per acre. To calculate market size for this example, the producer must figure out what volume of strawberries would be necessary to supply all potential customers with one week's supply at average fresh consumption levels. To do this, multiply the acres of strawberries to be grown by the predicted growth per acre, and divide this by weekly fresh consumption per capita (which is the annual fresh consumption divided by 52, the number of weeks in a year). Equation 1 shows how to do this:

$$(1) \quad \frac{(\text{Acres in operation}) * (\text{Output per acre})}{(\text{Average consumption per person/year}) / (52 \text{ weeks/year})} = \text{Market size required}$$

Using the numbers for this example, the proposed U-pick operation would require a market size of 260,000 consumers (3 acres \* 10,000 lbs per acre / (6 lbs per year / 52 weeks per year)). When performing this calculation, it is important to consider that the product may be sold at a discount relative to supermarket price levels, and therefore it might be expected that consumers will buy more than their average consumption levels (because selling at a discount allows consumers to purchase more of the product for the same amount of money). Table 1 shows the data used and market size required for both strawberries and beef, as well as the price elasticities (discussed below) for each. To calculate the market size required for the beef operation in Table 1, the total pounds of beef that is expected to be produced can be used for the numerator in Equation 1, rather than acres in use and expected output per acre. The market size of 41,677 consumers per week shows that in this case, the market required for such an operation is significantly smaller than that required for the strawberry operation. It should also be noted that if the beef was sold to consumers with enough freezer space to purchase beef for an entire year, the market size needed would drop to 801 consumers (41,677 consumers/52 weeks per year). However, it is still imperative that producers consider whether or not enough consumers can be found to meet the market size requirement. It is also important to note that these numbers are for standard, conventional strawberry and beef products; the market for a differentiated product will likely be different.

**Table 1: Market Size Data and Price Elasticities for Strawberries and Beef**

	<b>Strawberries</b>	<b>Beef</b>
<b>Average annual per capita consumption</b>	6 lbs/year	62.4 lbs/year
<b>Acres available</b>	3 acres	---
<b>Expected production</b>	10,000 lbs/acre	50,000 lbs
<b>Required market size</b>	260,000 consumers	41,667 consumers
<b>Price elasticity</b>	-0.928	-.0612

To obtain insights into the elasticity of supply response for different food products, USDA-ERS provides a website where elasticity estimates taken from academic, business, and industry literature can be obtained through customized pull-down menus (see the “More Information” section for the Web address). Figure 2 shows an example of finding elasticity estimates for U.S. strawberries. The average own-price elasticity estimate of strawberries in the literature is -.928. This elasticity estimate suggests that U.S. consumers may not be very responsive to bargain

strawberry prices because each 1% drop in price would increase purchases by 0.9%, or less than 1%. For example, if consumers purchase 10 pounds of strawberries for \$1 per pound, decreasing the price to \$0.99 per pound (a discount of 1%) would result in purchases of 10.09 pounds, an increase of less than 1% of a pound. While the sales volume would increase, the revenue obtained from the discounted price would be only \$9.99, compared to the full \$10 in revenue that would be collected with the initial price of \$1 per pound. Other attractions, activities, and information may be needed to persuade consumers to purchase more strawberries at the U-pick operation in this example. Table 1 shows that demand for beef is even more inelastic than strawberries, with an own-price elasticity of  $-.0612$ . For more information on price elasticities and inelastic demand, please see fact sheet WEMC FS#4-08, “Niche Market Pricing and Strategies for Maintaining Price Premiums” in this publication.

**Figure 2: Online Price Elasticity Estimates from USDA-ERS**

A primary goal of niche marketing is to make the demand for the product more inelastic (less sensitive/responsive to price, meaning consumers will purchase the same amount of the product even if there is premium pricing or a price increase). Differentiating agricultural products means that the product needs attributes that are not available in the supermarkets or from other competitors. These attributes may involve freshness, how the product was grown or raised, a farm experience, superior service, or other “special” attributes. If the desire is to grow products organically or under a different certification program, the number of consumers willing to pay a premium for this will also need to be adjusted. Although organic consumption continues to increase, organics still account for a very small percentage of consumed foods.

### Demographic Factors

Consumer demographics are a crucial component in determining market size. If planning to sell items directly from the farm or ranch, consider how large a radius, in terms of travel distance, the operation can expect to draw customers from. The USDA Forest Service's National



Survey on Recreation and the Environment found the average distance U.S. individuals drove to visit a farm in 2000 was 80 miles (USDA Forest Service, 2003). Because this also included family members visiting their relatives on farms several hundred miles away, most paying consumers will be drawn within a 50-mile radius unless no other farm visiting alternatives are available to them. However, some areas in the West find the majority of their consumers travel over 75 miles to participate in U-picks, farm festivals, and related farm activities, because no closer alternatives exist in their metro area (Leones et al., 1994).

**Figure 3: Demographic Characteristic Estimates from U.S. Census**

FACT SHEET  
United States | 86505  
Zip Code Tabulation Area 86505  
city/ town, county, or zip  
86505  
state  
Arizona  
GO  
search by address »

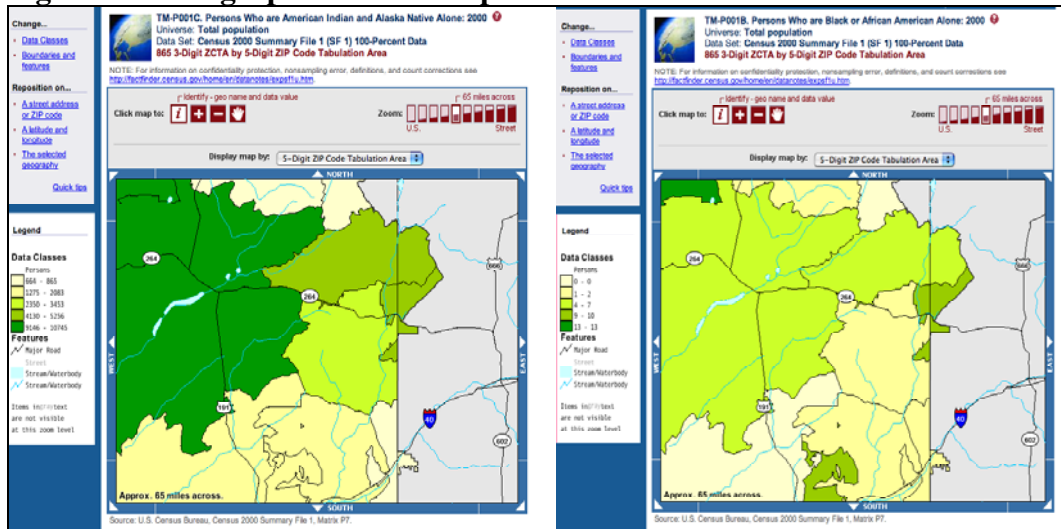
Census 2000 Demographic Profile Highlights: [Reference Map](#)

General Characteristics - <a href="#">show more &gt;&gt;</a>	Number	Percent	U.S.	
Total population	9,508			<a href="#">map</a> <a href="#">brief</a>
Male	4,728	49.7	49.1%	<a href="#">map</a> <a href="#">brief</a>
Female	4,780	50.3	50.9%	<a href="#">map</a> <a href="#">brief</a>
Median age (years)	25.8	(X)	35.3	<a href="#">map</a> <a href="#">brief</a>
Under 5 years	871	9.2	6.8%	<a href="#">map</a>
18 years and over	5,731	60.3	74.3%	
65 years and over	794	8.4	12.4%	<a href="#">map</a> <a href="#">brief</a>
One race	9,471	99.6	97.6%	
White	284	3.0	75.1%	<a href="#">map</a> <a href="#">brief</a>
Black or African American	4	0.0	12.3%	<a href="#">map</a> <a href="#">brief</a>
American Indian and Alaska Native	9,146	96.2	0.9%	<a href="#">map</a> <a href="#">brief</a>
Asian	4	0.0	3.6%	<a href="#">map</a> <a href="#">brief</a>
Native Hawaiian and Other Pacific Islander	1	0.0	0.1%	<a href="#">map</a> <a href="#">brief</a>
Some other race	32	0.3	5.5%	<a href="#">map</a>
Two or more races	37	0.4	2.4%	<a href="#">map</a> <a href="#">brief</a>
Hispanic or Latino (of any race)	99	1.0	12.5%	<a href="#">map</a> <a href="#">brief</a>
Household population	9,343	98.3	97.2%	<a href="#">map</a> <a href="#">brief</a>
Group quarters population	165	1.7	2.8%	<a href="#">map</a>
Average household size	3.60	(X)	2.59	<a href="#">map</a> <a href="#">brief</a>
Average family size	4.30	(X)	3.14	<a href="#">map</a>
Total housing units	4,162			<a href="#">map</a>
Occupied housing units	2,598	62.4	91.0%	<a href="#">brief</a>
Owner-occupied housing units	1,991	76.6	66.2%	<a href="#">map</a>
Renter-occupied housing units	607	23.4	33.8%	<a href="#">map</a> <a href="#">brief</a>
Vacant housing units	1,564	37.6	9.0%	<a href="#">map</a>

Knowing the demographic characteristics of the consumers a potential niche market operation would like to target is a key aspect in assessing the market. In the U-pick strawberry example, the producer may be interested in targeting families as consumers. In this case, it would be helpful to know if the farm area has enough families to make up a generous portion of the 260,000 consumers necessary for the financial feasibility of the U-pick operation. Demographics from the most recent U.S. Census can be searched online by state and by zip code. The information from a Census search provides an indication of the ages of people in the area, household and family size, income, ethnicity, and more, all of which can provide producers with additional information as to the characteristics of potential customers in the local and surrounding area.

Figures 3 and 4 illustrate Census data for specific locations that is readily available through the Internet. Figure 3 shows an example using the “demographic profile” for zip code 86505 (Window Rock, Arizona). The total population is only 9,508, and 96.2% of the population is American Indian. Clicking on the “map” link for race in Figure 3 yields a set of population density maps delineated by race and zip code, as shown in Figure 4. Whether researching the market potential for an urban center or rural areas, these tools provide valuable baseline insights as to the market size and demographics of regional consumer bases.

**Figure 4: Demographic Profile Map from U.S. Census**



**Destination Consumers**

For many rural areas, the local consumer base may not be large enough to support the minimum sales needed for the business plan to succeed. However, many rural areas in the West are located between a major urban center and a national or state park that serves as a vacation destination for numerous foreign and out-of-state visitors. Estimating the potential size of these markets requires information on where visitors are coming from prior to their visit, and going or returning to after their destination visit. For example, consider Grand Canyon National Park (GCNP), which attracts around 4.4 million visitors annually. As with many parks in the West, seasonal visitation is another important item to consider; Cothran et al. (2005) report that total annual visits to GCNP in 2004 varied greatly between season, with 11% of visits occurring in the winter, 27% of visits in the spring, 39% of visits in the summer, and 23% of visits in the fall. Table 2 on the following page shows where these visitors stayed prior to their trip to GCNP, as well as where they went after leaving the park. Consider a business located between Page, AZ and GCNP. The number of GCNP visitors that would pass by the business location each month would average 13,567. This figure was calculated as shown in Equation (2), by taking the total number of annual visitors, and multiplying it by the average percentage of visitors who visit Page before or after GCNP (found by taking the average of 3.4% and 4.0%), divided by 12 to obtain the monthly average, or 4.4 million \* .037/ 12. Based on the percentages of seasonal visits from Cothran et al., visitors could range from a low of around 5,970 visitors during the winter months to a high of 21,164 during the summer.

$$(2) \quad \frac{(\text{Total annual visitors}) * (\text{Average percentage of visitors})}{12} = \text{Average monthly visits}$$

Imagine an agritourism business plan that requires a minimum of \$10,000 in sales each month to be viable, with expected average consumer expenditures of \$25 per person. The business would need to attract 2.9% of GCNP visitors on average to make the business plan work (this is calculated below in Equation (3), using the numbers from the example, (\$10,000/\$25)/13,567); however, taking seasonality into consideration, the business would need

to attract 6.7% of the winter and 1.9% of the summer GCNP visitors. Given the relatively high percentage of GCNP visitors needed to make this business plan work, trying to start on a smaller scale and/or maybe gearing up before the more heavily traveled summer months may help a venture like this succeed.

$$(3) \quad \frac{\text{Monthly sales needed/Expected sales per visitor}}{\text{Estimated monthly visitors}} = \text{Percentage of total visitors needed}$$

**Table 2: Top Destinations Where Individuals Spend the Night Before and After Visiting Grand Canyon National Park**

Destination	Before	After	Destination	Before	After
Flagstaff, AZ	17.5%	10.6%	St. George, UT	1.5%	1.4%
Williams, AZ	12.6%	7.3%	Scottsdale, AZ	1.4%	1.5%
Las Vegas, NV	9.4%	12.7%	Zion National Park, UT	1.4%	1.7%
Sedona, AZ	6.0%	6.7%	Jacob Lake, AZ	1.4%	<1%
Phoenix, AZ	5.3%	8.0%	Kingman, AZ	1.3%	2.1%
Tusayan, AZ	4.3%	2.4%	Tucson, AZ	1.2%	<1%
Page, AZ	3.4%	4.0%	Holbrook, AZ	1.1%	1.1%
Kanab, UT	1.9%	1.4%	Albuquerque, NM	1.0%	1.2%
Bryce Canyon National Park, UT	1.7%	2.1%	Cameron, AZ	1.0%	<1%

### Agritourism

The USDA Forest Service's National Survey on Recreation and the Environment found that 62 million Americans over 16 years of age visited farms one or more times in 2000, which corresponds to almost 30% of the population (Barry and Hellerstein, 2004). These respondents said that the number one reason for their trip to the farm was to enjoy the rural scenery. Leones et al. (1994) also found that the primary reason for visiting farm outlets was the farm or rural experience, ahead of both freshness and quality of produce. As an industry, agritourism, or tourism related to farms and ranches, has been growing at a rate of around 6% annually in Europe and North America (Tchetchik et al., 2008). Tourism also tends to be relatively more important for rural and urban counties in the West compared to other regions of the U.S. For example, in Arizona tourism accounts for 7% to 17% of the employment in rural counties, but only 5.3% of total employment for the state as a whole (Rahman and Frisvold, 2006).

General tourism expenditures are useful for obtaining estimates on what people are willing to pay for their agritourism experience. Table 3 describes daily per person expenditures for visitors to Arizona in 2000, and 2002-2005 (Dean Runyan Associates, 2007; Arizona Office of Tourism, 2008). Each year, the amount spent on arts, entertainment, and recreation falls between \$22 and \$24 per person. If an operation offered food service and charged fees for various agritourism activities, a total of approximately \$50 per visitor could be expected from this venture (when considering what consumers have paid for entertainment and food and beverage services). The Forest Service's National Survey on Recreation and the Environment also found farm visitors spend about \$45 per person during each farm visit (USDA Forest Service, 2003). Foreign visitors generally spend more than domestic, but in setting prices one should always keep in mind that visitors having a good experience and receiving good value for each dollar they spend will likely become repeat business and share their experience with other potential farm visitors.

**Table 3: Average Daily Spending for Arizona Visitors, Per Person (Domestic and Foreign, in 2006 Dollars)**

Item	2000	2002	2003	2004	2005
Lodging	\$23.8	\$20.7	\$20.6	\$22.0	\$22.0
Food & Beverage Services	\$31.8	\$32.0	\$32.0	\$33.2	\$34.5
Arts, Entertainment, & Recreation	\$22.4	\$22.7	\$22.9	\$23.8	\$23.7
Ground Transportation & Motor Fuel	\$19.6	\$17.7	\$19.6	\$21.9	\$24.9
Retail Sales	\$30.6	\$30.1	\$28.3	\$28.1	\$27.8
<b>Total</b>	<b>\$128</b>	<b>\$123</b>	<b>\$123</b>	<b>\$129</b>	<b>\$133</b>

### Concluding Comments and Summary

Evaluating the market size of a niche agricultural product and/or farm experience is fundamental to the financial success and growth of the business. Starting relatively small with new products and variations on existing products is generally a good way to test the waters and verify consumer response and feedback. Finding products and activities that compliment each other is often key to identifying a successful market niche. For example, home cooked “apple burgers” are not likely to be a successful draw by themselves, but combined with a U-pick experience and festival atmosphere filled with fun family activities, it may very well provide an edge over alternatives such as the zoo, a national monument, or a museum. It is also important to determine whether the market base will be primarily made of local or destination consumers. If individuals are looking to travel from one destination to a metro center, activities will need to cater to shorter time periods unless overnight lodging facilities are nearby.

The trade-off between a market that is too small and a market that is too large is fundamental to niche marketing. A consumer base that is too small will be unable to generate sufficient sales to cover time and capital investments, and will not be economically viable. However, a very large market potential is likely to meet stiff competition from other competitors, unless the product is differentiated or truly targeted at a niche market segment.

### More Information

USDA’s Economic Research Service (USDA-ERS) is a primary source of economic information for the USDA, conducting research in the areas of food economics, information services, market and trade economics, and resource and rural economics. ERS and the majority of its services can be found online at <http://www.ers.usda.gov/>. Data on average annual consumption levels for hundreds of foods in the United States can be found online at <http://www.ers.usda.gov/Data/FoodConsumption/>, which allows users to create tables and graphs to display the information. Price elasticities for hundreds of food products in the U.S. have been compiled from published literature and can be accessed from ERS at <http://www.ers.usda.gov/Data/Elasticities/>.

The U.S. Census Bureau provides data related to population estimates, demographic factors, income, economic indicators, and more, and can be found online at <http://www.census.gov/>. To find a demographic fact sheet on a specific zip code (as in Figure 3) or a given state, the American Fact Finder can be accessed online at <http://factfinder.census.gov/home/saff/main.html>. Maps such as those in Figure 4 can be created by an additional service at the American Fact Finder. From the previous Web address, click the button for “Maps” and select “Thematic Maps.” This will present a menu of options for presenting statistical information in geographic regions.



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## **A Market-Driven Enterprise Screening Guide\***

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### **Introduction**

The industrialization and globalization of agriculture has resulted in increased competition and declining profit margins for agricultural producers. This situation, combined with escalating production costs (a result of high land values, expensive water, increased regulations, urban sprawl, and high energy and labor costs), paints a very difficult picture for small and medium scale agricultural producers and family farms in the United States.

Small and medium scale producers must learn to operate in a new business environment in which the success and profitability of agricultural operations is more and more dependent upon factors external to the operation. When looking at production, marketing, financial, legal, and human resource issues, farmers must increase their ability to deal with the diverse risks that impact their existing agricultural business and any new, potentially profitable farming opportunities they identify. Enterprise diversification, production contracts, marketing contracts, crop insurance, and financial reserves are examples of strategies and tools that growers can use to manage risks in their agricultural operations. However, the strategies and tools selected to manage risk will depend on the values, goals, and risk attitude of the farm/ranch operator.

Enterprise diversification is a commonly used risk management strategy by producers in the West. Growers constantly search for alternatives they can add to their production mix to keep their operations economically viable. However, many producers find that identifying and evaluating new or specialty crops with good profit potential is a difficult and intimidating task. The challenges and the risks involved are even greater for small-scale agricultural operators who may have only limited access to resources and information and are therefore forced to make decisions under an even higher degree of uncertainty. In addition, many small-scale agricultural producers often wish to consider new or alternative crops for which production and marketing information is lacking, or is very limited. Although there is no sure way to predict success, the screening process presented here may help producers get off to a good start.

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\* This guide was originally completed under a 2004 Western Center for Risk Management Education (WCRME) funded project titled "Managing Risks Associated with New Enterprises." It has been revised for inclusion in the 2008 WCRME funded project titled "Niche Markets: Assessment & Strategy Development for Agriculture."



Research and interaction with growers indicates that new or specialty crops/products with good, long-term profit potential often share a subset of the following characteristics:

- Adequate size of the target market
- Extended production and marketing season
- Complementary to the farm operation
- Difficult to grow/produce (steep learning curve)
- Expensive to start producing (high initial capital investment)
- Potential for value-added activities

In addition, growers must assess the quality and availability of information related to:

- Market data, research and analysis
- On-farm research and development
- Trends (demographic, economic, health, etc.)
- Product adaptation to a specific location
- Pest and disease problems
- Supporting infrastructure and facilities
- Laws and regulations (i.e. permits and license requirements)

Although these factors are not equally important for every new or alternative crop, growers must address all of them to make a well-informed choice. Once the alternatives are specified, growers must assess their potential given both their available resources and the risk factors they've identified.

### **How to Use this Guide**

The market-driven enterprise screening guide helps growers assess the potential of new or specialty enterprises. Special emphasis is placed on marketing and market factors since these are typically the most critical in determining the attractiveness of new or specialty crop alternatives. The guide consists of a series of questions designed to navigate the producer's thinking in evaluating a new enterprise. A new enterprise might be a new product, a different way of producing or marketing an existing product, or a new use for an existing product. The screening guide first frames the general descriptive situation, and then poses a series of questions (the screening worksheet) that asks the producer to rate the particular enterprise. Finally, the guide finishes with a suggested approach for making comparison across alternatives. Although these ratings involve numbers, it must be emphasized that the idea is NOT to generate a "total score" but rather to make comparisons on a topic-by-topic basis. That is, it is more important to focus across a row rather than down a column.

This guide will not give growers "The Answer." Instead, it is very similar to a comparison sheet for cars that lists different makes and models together with various characteristics such as price, horsepower, trunk size, headroom, and turning radius. The final choice of car depends on factors such as pocketbook and family size, driving patterns, preferences, and so on. The comparison sheet makes it easier to look at all the different factors at once, but individuals need to decide which factors are most important in their decision making process and ultimately, which car is their best choice. In a similar fashion, producers' inputs on this worksheet will help to clarify the crop options that are best for each individual's situation. It is suggested that users of this exercise go through it quickly the first time or two just to become familiar with the process and the questions being asked.

Following the “Additional Resources” section, the remainder of this document consists of a blank screening guide followed by an example with detailed user notes. It is the user’s choice to read through the example first or start right in with individual data. The blank guide should be photocopied as needed. It may be helpful to use a current enterprise (the user’s “bread and butter” or principal crop/product) in the first column as “option 1” to provide a standard of comparison for the option 2 and option 3 alternatives. This is the approach that was taken in the provided example.

## **Additional Resources**

### *General Information Sites:*

- Appropriate Technology Transfer for Rural Areas (ATTRA): [www.attra.org](http://www.attra.org)
- University of California Small Farm Center: [www.sfc.ucdavis.edu](http://www.sfc.ucdavis.edu)
- University of California Sustainable Agriculture Research and Education Program (SAREP): [www.sarep.ucdavis.edu](http://www.sarep.ucdavis.edu)
- University of Florida, IFAS Extension Electronic Data Information Source (EDIS): <http://edis.ifas.ufl.edu>
- University of Hawaii, College of Tropical Agriculture and Human Resources: [www.ctahr.hawaii.edu](http://www.ctahr.hawaii.edu)
- Oregon Small Farms Program: <http://smallfarms.oregonstate.edu>
- Sustainable Agriculture, Research and Education (SARE): [www.sare.org](http://www.sare.org)

### *Marketing Resources:*

- Agricultural Marketing Resource Center (AgMRC): [www.agmrc.org](http://www.agmrc.org)
- USDA Agricultural Marketing Service (AMS): [www.ams.usda.gov](http://www.ams.usda.gov)
- Western Extension Marketing Committee: [www.ag.arizona.edu/arec/wemc](http://www.ag.arizona.edu/arec/wemc)
- North American Farmers’ Direct Marketing Association: [www.nafdma.com](http://www.nafdma.com)
- USDA Economic Research Service: [www.ers.usda.gov](http://www.ers.usda.gov)
- USDA/AMS National Organic Program: [www.ams.usda.gov/nop](http://www.ams.usda.gov/nop)

### *Farm Management and Economics*

- Western Extension Farm Management Committee: <http://agecon.uwyo.edu/WFMEC/>
- UC Davis Cost Studies: [www.coststudies.ucdavis.edu](http://www.coststudies.ucdavis.edu)
- Enterprise Budget Library: [www.agrisk.umn.edu/Budgets/](http://www.agrisk.umn.edu/Budgets/)

### *Risk Management:*

- Western Center for Risk Management Education: [www.westrme.wsu.edu](http://www.westrme.wsu.edu)
- Risk Management Library: [www.agrisk.umn.edu](http://www.agrisk.umn.edu)
- Risk Management Agency: [www.rma.usda.gov](http://www.rma.usda.gov)

### *Decision Aide Tools:*

- Kentucky Primer for Selecting New Crop Enterprises: [www.uky.edu/Ag/AgEcon/pubs/ext\\_aec/ext2000-13.pdf](http://www.uky.edu/Ag/AgEcon/pubs/ext_aec/ext2000-13.pdf)





*New Crop and Postharvest Information:*

- Purdue New Crop Resource Online Program: [www.hort.purdue.edu/newcrop](http://www.hort.purdue.edu/newcrop)
- Vegetable Research and Information Center (VRIC): [www.vric.ucdavis.edu](http://www.vric.ucdavis.edu)
- California Rare Fruit Growers: [www.crfg.org](http://www.crfg.org)
- Fruit and Nut Research Information Center: <http://fruitsandnuts.ucdavis.edu/>
- Postharvest Technology Research and Information Center:  
<http://postharvest.ucdavis.edu/>
- Agricultural Alternatives, Penn State Cooperative Extension:  
<http://agalternatives.aers.psu.edu/>



## **Descriptive Section**

**These five initial questions will help you define your alternatives and focus your thoughts for the rest of the comparison.**

1. Describe the product (or closely linked group of products) you are considering producing, in as much detail as possible.
2. For the product in #1, describe your target (a) consumer(s) and market outlet(s) and (b) seasons.
3. What special requirements, problems, barriers, or risks do you anticipate in (a) producing and (b) marketing this product?
4. Who are/will be your competitors?
5. What are your *competitive advantages*, if any, in producing this new crop? Consider your competitors, location, regulations, seasonality, production costs, and other factors.

### The Crop/Enterprise Screening Worksheet

**MARKET SCREENING PROCESS:** Using the scale described for each question, please assess your ability to perform the task described or your understanding of the particular issue presented in relation to the enterprise alternatives you are considering. Use "NA" for issues that are not applicable and a question mark (?) for issues on which you are unable to provide even a guess.

MARKETING QUESTIONS	Option 1	Option 2	Option 3
1. How precisely can you describe the "marketable" product? (1=difficult, 5=easy)			
2. How precisely can you describe your target consumer, outlet, or market? (1=difficult, 5=easy)			
3. To what extent are there established channels to reach that consumer, outlet, and/or market? (1=none, minimal; 5=well-established)			
4. How familiar are target consumers with the product? (1=no awareness, 5=well-known)			
5. How easily can you meet the specific requirements of your targeted outlets/markets? (1=difficult, 5=easy)			
6. How confident are you that you can overcome significant problems or barriers to get the product to market? (1=difficult, 5=easy)			
7. How available are market and price data? (1=none, minimal; 5=very available)			
8. What are the per-unit price trends? (1=down, 3=flat, 5=up)			
9. How variable are the prices? (1=highly variable, 5=stable)			
10. Are there attractive market windows that you can fill? (1=no, 5=yes)			
11. Is the size of the market adequate for your projected volume of production? (1=no, 5=yes)			
12. How do you rate the profit potential compared to your existing product? (1=lower, 3=same, 5=higher)			
13. To what extent does the profit potential justify the investment needed? (1=not at all, 5=very well)			
14. How much control will you have over price per unit? (1=low, 5=high)			
15. Can you differentiate your product to get a price premium or enhance market access in terms of a local or regional brand, certification or labeling, product attributes/characteristics? (1=no, 5=yes)			
16. How do the marketing costs of the product compare to your current costs in terms of transportation costs, preparation time, packaging, etc? (1=higher, 3=same, 5=lower)			
17. Assess the competition you will face in selling this product. (1=strong, 5=weak or none)			
18. Can you protect your market from new growers coming in? (1=no, 5=yes)			

<b>INFORMATION QUESTIONS</b>	Option 1	Option 2	Option 3
19. Rate your knowledge about production of this crop/product. (1=low, novice; 5=high, expert)			
20. Rate your knowledge about marketing this crop/product. (1=low, novice; 5=high, expert)			
21. Rate the availability and access of information needed for your area (Extension agents, other growers, Internet, library, etc.). (1=low, 5=high)			
22. Rate your knowledge of the laws and regulations associated with the crop/enterprise. (1=low, novice; 5=high, expert)			
23. Are you willing to do what it takes to get all information needed? (1=no, 5=yes)			
<b>PRODUCTION QUESTIONS</b>	Option 1	Option 2	Option 3
24. How well does the crop grow in your area? (1=not at all, 5=very well)			
25. Rate your ability to produce high-quality product. (1=low, 5=high)			
26. How well does the new enterprise fit with your current farm operation? (1=not at all, 5=very well)			
<b>RESOURCES QUESTIONS</b>	Option 1	Option 2	Option 3
27. To what extent do you own or control appropriate land resources? (1=inadequate, 3=some, 5=enough)			
28. To what extent do you own or control appropriate water resources? (1=inadequate, 3=some, 5=enough)			
29. Do you have timely access to the financial resources required for this project? (1=no, 5=yes)			
30. Do you own or have access to all equipment and facilities needed? (1=no, 5=yes)			
31. Do you have access to sufficient labor with appropriate skills when needed? (1=no, 5=yes)			
32. Do you have access to the necessary supporting infrastructure in your area? (1=no, 5=yes)			
33. To what extent does your family support this new product? (1=low, limited; 5=high, full)			
34. To what extent will you have the ability, time, and willingness to manage this new product? (1=low, limited; 5=high, full)			
<b>RISK MANAGEMENT QUESTIONS</b>	Option 1	Option 2	Option 3
35. Given all of the above, how risky is this product? (1=very risky, 5=low risk)			
36. How available are the resources and tools to manage the risks identified? (1=none, 5=very available)			
37. Are you willing to accept the risks you have identified? (1=no, 5=yes)			
38. Are you able to manage the risks you have identified? (1=no, 5=yes)			

### **Evaluation of Responses**

Now that you have completed the worksheet, what are the three to five most important factors (questions) that will drive your decision? It is important to consider weaknesses as well as strengths in selecting these factors.

Using your 3-5 factors, rank your alternatives.

It is critical to remember that however attractive any of the alternatives appears to be, you need to conduct more detailed analyses before making a decision. Ideally you should complete a business plan that includes detailed financial and marketing plans, feasibility studies, and projected financial statements. This would show you on paper the effect of the new enterprise on your overall operation before you commit any resources to the new enterprise.



## **Profitseeker: Sample Case**

In the following example, the italics represent the responses and thinking process of the Profitseeker family, a hypothetical farming couple in Southern California.

### **Sample Case Background**

The Profitseekers operate a 20-acre farm growing mixed vegetables for sale to wholesalers and farmers' markets. Mr. Profitseeker works on the farm full time and takes care of production and wholesale sales. Mrs. Profitseeker works off the farm and helps with the farmers' markets. The Profitseekers have a permanent crew and hire casual labor to handle peak demands such as during harvest. The largest percentage of the farm, in terms of acreage and revenues, is in pole tomatoes. The Profitseekers are concerned because of the declining profitability of pole tomatoes due to the increase in year-round imports and greenhouse production from low-cost competitors. The Profitseekers are considering diversifying by replacing some pole tomato production with an alternate enterprise. There have been a number of recent newspaper and magazine articles on heirloom tomatoes and blueberries, and they have noticed the presence of both in their markets. Some customers at the farmers' markets have even inquired about additional tomato varieties. The couple attended an Extension workshop where they received this worksheet.

## Descriptive Section

These five initial questions will help you define your alternatives and focus your thoughts for the rest of the comparison.

1. Describe the product (or closely linked group of products) you are considering producing, in as much detail as possible.

*Option 1: Pole tomatoes*

*Option 2: Heirloom tomatoes grown in hoop houses*

*Option 3: Hand-harvested blueberries*

1. For the product in #1, describe your target (a) consumer(s) and market outlet(s) and (b) seasons.

***Pole tomatoes:*** Sold to wholesalers and at farmers' markets, depending on price and season. Generally avoid harvesting in summer months when prices are weakest.

***Heirloom tomatoes:*** Sell directly to restaurants and in farmers' markets in the region. Year-round production, but will focus on harvesting outside of the summer months.

***Blueberries:*** Sell directly to restaurants and in farmers' markets in the region. Will focus on being in the market in the early season (March-May) and late season (October-December).

2. What special requirements, problems, barriers, or risks do you anticipate in producing and marketing this product?

***Pole tomatoes:*** Summer price drop, frost and diseases may be a problem in the winter.

***Heirloom tomatoes:*** Frost and disease, packing requirements, learning curve including selecting the best varieties, cultural practices, summer glut, market access (breaking in).

***Blueberries:*** Mastering production challenges including soil pH management, possibility of frost in the winter.

3. Who are/will be your competitors?

***Pole tomatoes:*** Other local growers, imports from Mexico, greenhouse growers.

***Heirloom tomatoes:*** Local producers, imports.

***Blueberries:*** Imports from South America and Mexico are the primary competition during the targeted market windows; during the traditional blueberry market season, there will be greater competition from growers in other states and regions of California.

4. What are your competitive advantages, if any, in producing this new crop? Consider your competitors, location, regulations, seasonality, production costs, and others.

*The Profitseekers consider the following as competitive advantages--something that gives them an "edge" over other competitors.*

***Pole tomatoes:*** Proximity to markets, higher quality, better flavor, freshness.

**Heirloom tomatoes:** Hoop houses reduce frost and disease problems; know tomatoes, access to farmers' markets as a current vendor, also all of the pole tomato advantages listed above.

**Blueberries:** Locally grown, fresh, proximity to affluent market, seasonal availability/market window, high demand as a function of health trends, access to location -specific research.

### Marketing Section

The first two questions assess your ability to describe the product and target consumer or market. Lower scores indicate greater difficulty.

MARKETING QUESTIONS 1-2	Pole tomato	Heirloom tomato	Blueberry
1. How precisely can you describe the "marketable" product? (1=difficult, 5=easy)	5	4	4
2. How precisely can you describe your target consumer, outlet, or market? (1=difficult, 5=easy)	5	3	3

**Q1.** Mr. Profitseeker knows **pole tomatoes** better than the other two crops. For **heirloom tomatoes**, he doesn't know the specific varieties to grow, nor is he certain of the units that he will be packing and selling (i.e. single or double layer lugs, the use of padding). Since he is familiar with tomatoes in general, he rates the product a "4." He rates **blueberries** a "4" since they are a well-known product with fairly standardized packaging for farmers' markets and restaurants.

**Q2.** He knows **pole tomatoes'** consumers and markets well and rates the product a "5." Although farmers' markets are familiar, selling to restaurants will be brand new so he rates himself a "3" for the two new crops.

Questions 3 and 4 explore the linkages among the product, markets, and final consumers.

Questions 5 and 6 address market requirement and barriers.

MARKETING QUESTIONS 3-6	Pole tomato	Heirloom tomato	Blueberry
3. To what extent are there established channels to reach that consumer, outlet, and/or market? (1=none, minimal; 5=well-established)	5	4	3
4. How familiar are target consumers with the product? (1=no awareness, 5=well-known)	5	5	5
5. How easily can you meet the specific requirements of your targeted outlets/markets? (1=difficult, 5=easy)	5	3	4
6. How confident are you that you can overcome significant problems or barriers to get the product to market? (1=difficult, 5=easy)	5	4	3

**Q3.** Profitseeker needs to learn more about the distribution system for both of the new crops so they are both rated below **pole tomatoes**. In addition, for **blueberries**, he will need to establish the marketing channels in the conventional off-season since it is a totally new product at that time.

**Q4.** Consumers are very familiar with all three products.

**Q5.** He expects to have to learn restaurant product specifications and has some concerns about being able to meet them since things can be very specific to the particular **heirloom tomato**

varieties. This seems to be less of a problem with **blueberries**, although the variety selection can also be important. Controlling quality via hand harvesting will be important. The Profitseekers don't anticipate any new problems with either crop when sold via farmers' markets.

**Q6.** A big plus for the Profitseekers is that they are experienced producers. Thus they are almost as confident in producing **heirloom tomatoes** as with their current crop. In comparison, **blueberries** rate a "3" because there is greater production uncertainty, especially their ability to hit the market windows (see below).

Questions 7 to 9 involve the availability of data, and what that data means to the operation. In question 10, the term "market windows" refers to specific time periods when opportunities exist because of supply gaps or demand increases (such as holidays).

MARKETING QUESTIONS 7-11	Pole tomato	Heirloom tomato	Blueberry
7. How available are market and price data? (1=none, minimal; 5=very available)	5	3	5
8. What are the per-unit price trends? (1=down, 3=flat, 5=up)	2	4	3
9. How variable are the prices? (1=highly variable, 5=stable)	1	3	3
10. Are there attractive market windows that you can fill? (1=no, 5=yes)	2	4	5
11. Is the size of the market adequate for your projected volume of production? (1=no, 5=yes)	3	4	5

**Q7.** Good market data exists for **pole tomatoes** and **blueberries** so both are rated as "5." Profitseeker rates **heirloom tomatoes** a "3" because he has not dealt with chefs and is not certain about the prices he will be offered.

**Q8.** Prices for **pole tomatoes** have been decreasing because of increasing competition and year-round availability. In contrast, Profitseeker believes that price trends for **heirloom tomatoes** are more positive because there is substantial interest in the product and he will also direct market (to farmers' markets and restaurants) 100% of the crop. Profitseeker cannot identify an overall price trend for **blueberries** and therefore rates it a "3."

**Q9.** Historically, seasonality and excess production during the summer causes substantial variations in **pole tomato** prices. As a result they are rated a "1." **Heirloom tomatoes** are direct marketed and therefore have more stable prices. **Blueberries** rate a "3" because the markets used provide some stability.

**Q10.** Competition from domestic and foreign producers has almost eliminated market windows for **pole tomatoes** so this crop is rated a "2." Since his **heirloom tomatoes** will compete primarily with local producers, Profitseeker believes that he will have the opportunity to market this product during significant market windows that his smaller, less-experienced competitors will be unable to fill. **Blueberries** rate a "5" as there are both early and late windows when the competition is reduced but the demand is still strong. Since the farmers' markets do not allow shipped-in (non-local) berries to be sold, he has a year-round opportunity to sell his crop there.

**Q11.** The size of the **pole tomato** market is rated as average (“3”). Profitseeker assesses the **heirloom tomato** market as relatively large (“4”) and the market for **blueberries** as definitely sufficient (“5”) for his anticipated production.

Questions 12 to 18 deal with profitability, pricing, and competitors.

MARKETING QUESTIONS 12-18	Pole tomato	Heirloom tomato	Blueberry
12. How do you rate the profit potential compared to your existing product? (1=lower, 3=same, 5=higher)	na	4	5
13. To what extent does the profit potential justify the investment needed? (1=not at all, 5=very well)	na	4	4-5
14. How much control will you have over price per unit? (1=low, 5=high)	2	3-4	3-4
15. Can you differentiate your product to get a price premium or enhance market access in terms of a local or regional brand, certification, or labeling, product attributes/characteristics? (1=no, 5=yes)	2	3	4
16. How do the marketing costs of the product compare to your current costs in terms of transportation costs, preparation time, packaging, etc? (1=higher, 3=same, 5=lower)	na	2	1
17. Assess the competition you will face in selling this product. (1=strong, 5=weak or none)	1	2	3
18. Can you protect your market from new growers coming in? (1=no, 5=yes)	1	2	2

**Q12.** Profitseeker’s research indicates that both **heirloom tomatoes** and **blueberries** have greater profit potential than **pole tomatoes**. Of the two, he rates **blueberries** as having a higher potential.

**Q13.** **Heirloom tomato** production requires an investment in hoop houses and **blueberries** require a substantial investment both to establish the fields and to maintain them over the extended time period until the fields start producing. Overall, the Profitseekers feel the profit potential is high for both crops and feel that **blueberries** are just a bit more promising (although not quite a “5”).

**Q14.** The “2” rating for **pole tomatoes** is a blend between a “1” for the crop in the wholesale market and a “3” in farmers’ markets. Competition in the farmers’ markets from other vendors limits having more price control. The “3-4” ranking for both **heirloom tomatoes** and **blueberries** reflects the view that he will have at least some control over pricing with these two crops in both farmers’ markets and restaurants.

**Q15.** As was true for the previous question, the “2” for **pole tomatoes** is a mix of “1” in the undifferentiated wholesale market and the “3” from the loyal farmers’ market customers who nonetheless will switch vendors if Profitseeker raises prices too much. Profitseeker believes he can gain some customer loyalty for **heirloom tomatoes** and thus gives it a “3.” If the Profitseekers are able to hit the market window and provide fresh, local **blueberries**, Profitseeker anticipates gaining a substantial advantage over imports and gives the product a “4.”



**Q16.** The **heirloom tomatoes** would have higher marketing costs than **pole tomatoes** because of the packaging and handling required by restaurants. The **heirloom tomatoes** sold through farmers' markets would not have higher marketing costs. Hand-harvesting **blueberries** will be quite expensive. In addition, Profitseeker is uncertain about the package sizes for both farmers' markets and restaurants. As a result he rates **blueberries** a "1."

**Q17.** **Pole tomatoes** face very strong competition. The "1" ranking on this factor is the main reason the Profitseekers decided to consider alternatives. They anticipate **heirloom tomatoes** will face fairly keen competition from other local producers. For **blueberries**, imports as well as other local or regional producers could be a factor even if they produce only during the preferred market windows. Nonetheless, **blueberries** have the best competitive position because of the growing demand for this crop.

**Q18.** While the Profitseekers can benefit from some loyalty in farmers' markets, this is not the case for the wholesale market, which makes up the bulk of their **pole tomato** sales. As a new supplier of either **heirloom tomatoes** or **blueberries**, the Profitseekers recognize that they would initially face competition in selling to restaurants. If they manage to break in to the market and gain some customers, they believe that they would gain loyalty. They give a conservative ranking of "2" to both.

### Information Section

INFORMATION QUESTIONS 19-23	Pole tomato	Heirloom tomato	Blueberry
19. Rate your knowledge about production of this crop/product. (1=low, novice; 5=high, expert)	5	4	2
20. Rate your knowledge about marketing this crop/product. (1=low, novice; 5=high, expert)	5	4	2
21. Rate the availability and access of information needed for your area (Extension agents, other growers, Internet, library, etc.) (1=low, 5=high)	5	4	3
22. Rate your knowledge of the laws and regulations associated with the crop/enterprise. (1=low, novice; 5=high, expert)	5	3	3
23. Are you willing to do what it takes to get all information needed? (1=no, 5=yes)	na	5	5

**Q19-20.** Although Profitseeker is an experienced tomato grower (ranking of "5" for **pole tomatoes**), he has not grown **heirlooms**, nor has he had to meet restaurant standards. He ranks himself a "4" based on his overall familiarity with the crop. **Blueberries** are a totally new crop and require more orchard versus field-type production practices. In addition to **blueberries** being a new crop, Profitseeker has been told that training workers to pick **blueberries** can be difficult since pickers need to learn how to identify ripe berries. Overall, he ranks himself much lower on this crop.

**Q21.** Published information from other regions is available for **heirloom tomatoes** and **blueberries**. But the latter is a new crop so there is less expertise in the region.

**Q22.** As an experienced tomato producer, Profitseeker is confident that he knows the laws and regulations related to his traditional market channel. He needs to become better aware of the

regulations associated with sales to restaurants and rates both **heirloom tomatoes** and **blueberries** as “3.”

**Q23.** On this attitude question, Profitseeker indicates that he is ready to go for both of the new crops. Note that if he had been considering adding something such as a processing enterprise, the information burden would have been quite a bit higher.

### Production Section

PRODUCTION QUESTIONS 24-26	Pole tomato	Heirloom tomato	Blueberry
24. How well does the crop grow in your area? (1=not at all, 5=very well)	5	5	3
25. Rate your ability to produce high-quality product. (1=low, 5=high)	5	4	3
26. How well does the new enterprise fit with your current farm operation? (1=not at all, 5=very well)	5	5	5

**Q24.** Tomatoes (both **pole** and **heirloom**) generally do well in his area, and Profitseeker has grown and sold tomatoes for many years. It seems that **blueberries** will grow, but since he is not certain that the timing of the harvest will coincide with the market window, he gives the crop a “3.”

**Q25.** Profitseeker can produce quality **pole tomatoes**, but makes some allowance for the problems that typically come up with new varieties such as the **heirlooms**. For **blueberries**, this is compounded by anticipated problems with training pickers.

**Q26.** The Profitseekers believe that both **heirlooms** and **blueberries** will fit well with their farm as well as their direct marketing operations.

### Resources Section

RESOURCES QUESTIONS 27-29	Pole tomato	Heirloom tomato	Blueberry
27. To what extent do you own or control appropriate land resources? (1=inadequate, 3=some, 5=enough)	5	5	5
28. To what extent do you own or control appropriate water resources? (1=inadequate, 3=some, 5=enough)	4	4	4
29. Do you have timely access to the financial resources required for this project? (1=no, 5=yes)	4	4	3
30. Do you own or have access to all equipment and facilities needed? (1=no, 5=yes)	5	4	4
31. Do you have access to sufficient labor with appropriate skills when needed? (1=no, 5=yes)	5	5	4
32. Do you have access to the necessary supporting infrastructure in your area? (1=no, 5=yes)	5	5	4
33. To what extent does your family support this new product? (1=low, limited; 5=high, full)	na	4	4
34. To what extent will you have the ability, time, and willingness to manage this new product? (1=low, limited; 5=high, full)	na	4	3

**Q27-28.** Profitseeker believes that the three crops will all have the same implications for his land and water resources. He believes he has enough land and is only slightly less confident when it comes to the adequacy of his water.

**Q29.** Profitseeker views the two tomato enterprises as similar in terms of financial requirements (the hoop houses needed for **heirloom** production are not a major expenditure). The **blueberries** will require a considerable, but not insurmountable, investment to establish fields, including netting to protect the crop from birds.

**Q30-32.** **Heirloom tomatoes** are a bit more demanding than pole tomatoes in terms of facilities needed. **Blueberries** differ in terms of the need for trained pickers and additional infrastructure in the area. Depending on the area planted and the calendar of operations, the current labor force may be used to pick most of the blueberries because peak blueberry harvest will most likely occur when tomato labor demands are low. Additional packing supplies and facilities may be needed for blueberries.

**Q33.** The Profitseekers both agree that they need to look at alternatives for pole tomatoes. Profitseeker’s wife will include **heirloom tomatoes** with her other farmers’ market sales. They have not decided who would handle restaurant sales for either heirloom tomatoes or blueberries.

**Q34.** For **heirloom tomatoes**, the time commitment to develop and service new markets is unknown. Ability and time are an even larger issue with **blueberries**, because unlike tomatoes, they are a totally new crop.

**Risk Management Section**

<b>RISK MANAGEMENT QUESTIONS 35-38</b>	Pole tomato	Heirloom tomato	Blueberry
35. Given all of the above, how risky is this product? (1=very risky, 5=low risk)	3	3	2
36. How available are the resources and tools to manage the risks identified? (1=none, 5=very available)	2	2	2
37. Are you willing to accept the risks you have identified? (1=no, 5=yes)	4	4	4
38. Are you able to manage the risks you have identified? (1=no, 5=yes)	2	3	2

**Q35.** All three crops are risky but in different ways. There is substantial price risk with **pole tomatoes** as competition continues to enter the market. The risks for **heirloom tomatoes** center around market access (being able to break into the restaurant trade) and production uncertainty. In the long run, this would be upgraded to a “4” if the Profitseekers are successful. **Blueberries** have question marks on both the production and marketing sides and therefore rate as the riskiest of the three enterprises with a “2.”

**Q36-37.** No variations for these two questions.

**Q38.** For **pole tomatoes**, Profitseeker recognizes that competition will remain fierce in the wholesale market. There is more control in the farmers markets, so taking both markets together

he rates *pole tomatoes* as a “2.” *Heirloom tomatoes* earn a “3” because restaurants will replace the wholesale market and therefore allow him to better manage the risks. The uncertainties associated with *blueberries* earn the product a “2.”

**Now that you have completed the worksheet, what are the three to five most important factors (questions) that will drive your decision? Use these 3-5 factors to rank your alternatives.**

*The following summarizes the questions that the Profitseekers thought were most important. The questions that you choose may be different.*

<b>MOST IMPORTANT QUESTIONS (Grower Selected)</b>	Pole tomato	Heirloom tomato	Blueberry
12. Profit potential	na	4	5
13. Extent to which profit potential justifies investment needed	na	4	4-5
25. Ability to produce high-quality product	5	4	3
34. Ability, time, and willingness to manage	na	4	3
38. Ability to manage risk identified	2	3	2

*Using these key factors, the Profitseekers concluded from this quick screening process that both alternatives had potential advantages over **pole tomatoes**. **Heirloom tomatoes** were something they were comfortable growing and offered higher expected profits. **Blueberries** provided the possibility of even higher profits but came with more unknowns. With the help of their Extension agent, the Profitseekers carried out a more in-depth examination of the two new alternatives, including the preparation of a business plan that consisted of detailed financial and marketing plans, feasibility studies, and projected financial statements.*

### **The Profitseekers’ Decision**

After completing the analysis, the Profitseekers decided to try both new enterprises on a small scale as a trial and then rethink their next steps. This strategy offered three key advantages. First, they would be able to learn more about the production of the two crops. Second, they would be able to break into the restaurant market at a pace that they could control with two crops rather than just one. Third, **blueberries** take several years to mature and this strategy would allow the Profitseekers to use **heirloom tomatoes** to help meet short-term cash flow needs.

## **Niche Market Pricing and Strategies for Maintaining Price Premiums**

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### **Overview**

Developing products that not only add value but also increase profitability is the goal of virtually all niche food and agricultural product producers and manufacturers. Large-scale food product manufacturers often accomplish this goal through several strategies, including undertaking market research to identify relatively large segments of the market to serve as potential customers, establishing brand recognition (equity) through advertising and promotion, and establishing trademark and product protections. These strategies are typically expensive processes that require a sizable sales volume in order to be effective and profitable. Large firms have the ability to identify markets that are large enough to allow them to produce a low-cost high volume product. This strategy does not work for small niche markets, as smaller manufacturers generally have higher per-unit costs of production than larger manufacturers, which makes competition with large firms in large market segments difficult to impossible. As a result, smaller companies often find more success in identifying relatively small market niches that the larger firms ignore because they do not allow large firms to take advantage of economies of scale in production, processing, and marketing. Without making too broad a generalization, this means that large firms need to operate in large markets in order to effectively eliminate competition from smaller firms; while they also need brand equity, obtained through advertising and promotion, to effectively compete against other large firms in the large markets. This often leaves opportunities for smaller firms in food product manufacturing and marketing to compete in relatively small markets that the large firms must essentially ignore. Note that “large” and “small” are relative terms and even small market segments can be quite large to very small.

Although small firms typically will not have to compete with large firms in smaller markets, their job remains the same: defining a market for the product (could be based on consumer income, location of production, and other unique product characteristics); establishing a recognized (sometimes referred to as “differentiated”) product; and using this product to effectively compete against similar products in the market. All this needs to be done profitably, meaning the cost of developing, producing, and marketing the product needs to be less than the revenue received from sales of the product. “Niche marketing” is a term often used to describe this process.

This fact sheet will discuss price behavior and how prices change over time, strategies small producers may consider to maintain their competitiveness in a market, and how to examine the feasibility (or expected profitability) of a potential market and/or product. More information about market segments can be found in WEMC FS#2-08, “Evaluating Market Size,” while





factors to consider before entering a market with a new product are discussed in WEMC FS#3-08, “A Market-Driven Enterprise Screening Guide.” Both of these fact sheets are included in this publication.

### **Niche Market Characteristics and Price Behavior**

In general, niche markets have a few important characteristics that make their prices behave differently than in larger markets. By definition, niche markets are relatively small markets, but this does not mean that niche markets are unimportant or unprofitable. For example, there has been a tremendous amount of interest recently in developing niche beef products. There are several reasons for this interest, one of which being the fact that beef is a widely-consumed food product in the United States, and if just a small portion of the total market took interest in a specialized beef product, it could have very significant impacts on the market for that product. In 2007, retail beef sales in the U.S. totaled \$74 billion (USDA ERS, 2008). A product capturing only one one-hundredth of 1% of total retail beef sales (only one in every 10,000 sales) would have a market exceeding \$7 million annually (this figure is based on prices for conventional beef products; it would have the potential to be greater if the product sold for above average retail prices, as differentiated products typically do). In this sense, even relatively small niche markets can be important. The fact that a relatively small number of persons may make up the customers for a niche market product and that these customers are usually willing to pay above, and sometimes far above, average market prices for the product is a phenomenon in economics called “inelastic demand.” Inelastic demand means that people buying the product are not very sensitive to price, or that they will buy about the same amount of the product even as the price changes.

The less flexibility there is in the market to price (i.e. the number of people buying the product doesn't change much as prices go up and down, meaning demand for the product is inelastic), the more set the market is, so something aside from price must be used to “grow” the market. It also means that if competitors enter the same market with the same or a similar product, prices for the product might drop considerably. Having an inelastic product means that on the upside, people purchasing the product may be willing to pay a premium. However, on the downside, in order to sell a greater quantity, the price would have to decrease dramatically, or the market would need to be expanded.

This phenomenon can be demonstrated through graphs. For example, the relationship between price and the number of units sold in a niche market with a relatively small number of customers is shown graphically in Figure 1 on the following page. The line that is almost perpendicular is the “demand curve” for this market, and shows how much of the product can be sold in this market at each price. For instance, at Point A, eight units can be sold at a price of \$10/unit. At Point B, ten units can be sold, but at a much lower price (\$5/unit). The important point here is that price changes more than the number of the units that are sold. In this example prices dropped by 50% from \$10/unit to \$5/unit, but only 25% more units could be sold at the lower price. This means that total sales in this market will decline as the number of units sold goes up. That is, when only eight units are sold total sales are \$80 ( $\$10 * 8$  units), but when ten units are sold, total sales are only \$50 ( $\$5 * 10$  units).

Figure 2 shows what happens when one “supply curve” is put on this graph with an intersection at Point A, and a second supply curve is added with an intersection at Point B. The graph showing customer demand and the ability and willingness of companies to supply the

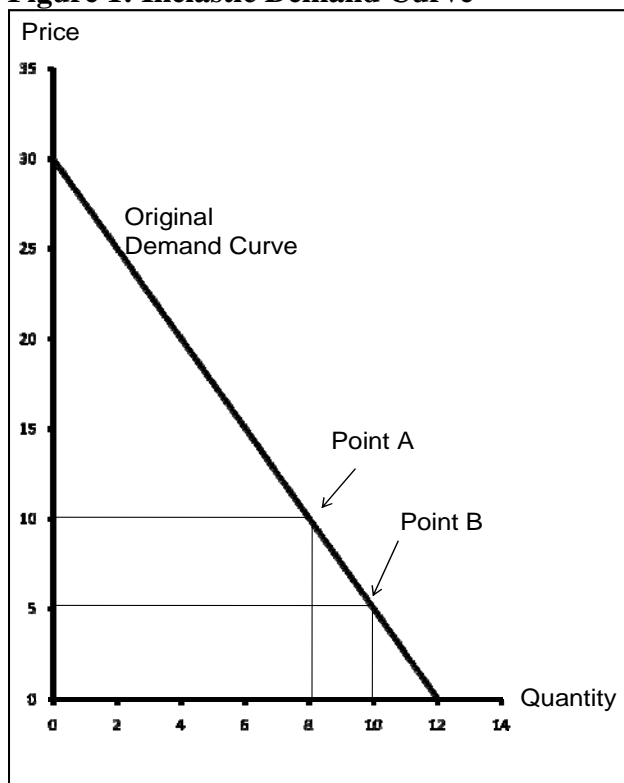


amount of units demanded by customers is now complete. The supply curve intersecting Point A might represent an initial situation in this market where only one company is producing products for this niche market. The supply curve intersecting Point B might represent this market after another company enters this market with the same product. This shows that both companies face significantly lower prices when they try to compete in the same market. Prices could only stay constant at \$10/unit if demand were to increase.

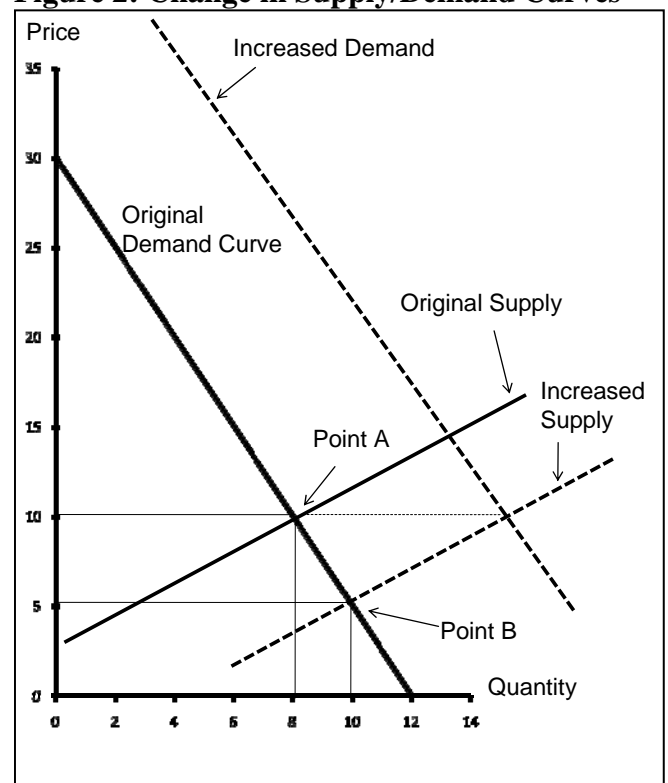
### Potential Strategies

As niche markets tend to exhibit inelastic demand, companies engaged in niche marketing need to determine a strategy to keep competitors from entering the market, or they must continue to increase demand for their product if they wish to keep prices and sales stable and/or growing. There are numerous examples of niche markets that started small, with just a few producers and high price premiums, and then became more mainstream as additional suppliers entered the market, eventually driving the price (or price premium) down. Many organic produce items have seen the price premium over conventional produce decrease as more suppliers enter the market. Understanding this phenomenon is important as a producer examines the potential profitability of a new market or niche product, as it is important to understand that the price of the product will likely change over time, and that strategies to continue to differentiate their niche product from the products of other suppliers must be considered in advance. If the product catches on and more customers enter the market simultaneously with new suppliers, then prices and quantities may remain stable.

**Figure 1: Inelastic Demand Curve**



**Figure 2: Change in Supply/Demand Curves**



A first strategy to consider is maintaining current customers by developing customer loyalty. This is often done through product differentiation. Patents, trademarks, and branding are strategies used by large firms to maintain their price premiums as new competitors enter the market; however, the costs of these strategies usually make them infeasible for small producers. Small producers can achieve similar results through less costly options such as unique production practices (i.e. natural, organic, humane), location of production (i.e. local, state, region), story of the product or producer, etc. These strategies help to define the product as unique, and communicate to customers that even though there are close substitute products, they are not the same. Roquefort cheese is an example of a food product that is defined by both location and production practice. Roquefort cheese is aged in the Roquefort caves in France and can only be produced in those particular caves; a production practice that cannot be completely imitated.

A second strategy is to innovate to stay ahead of the curve by continuing to find new products that are valued by a niche market. This may mean looking for new varieties of produce (heirloom tomatoes, for example), a different production practice, or different packaging/processing (such as packaging pre-washed green beans in a microwavable bag for easy steaming). To pursue this strategy, it is easier to find new products that an existing customer base will value, which will eliminate the marketing costs associated with finding a new customer base.

A third potential strategy is to grow the market at a rate that keeps it ahead of new entrants. This involves finding new customers that want the product. If the awareness of the product spreads and new customers are found for the product, the new demand may keep pace with the new supply and prices would be stable. However, it must be noted that even with new customers, their pace of consumption must meet or exceed increasing supplies or else prices and/or price premiums will still decrease.

### **Analyzing Potential Profit and Risk**

To develop successful strategies, a producer needs to consider the options and examine potential profit. As with any type of planning, the future is unknown. Two types of profit analysis are break-even analysis and scenario analysis. Break-even analysis is a quick analysis to determine if a strategy or idea has merit. Scenario analysis compares the results of different scenarios and how different assumptions affect the bottom line.

#### *Break-Even Analysis*

This section will present an explanation of how to perform a preliminary break-even analysis. This type of analysis answers the questions “How much needs to be sold to break even?” and “What would the price need to be to break even?” If the quantity that would need to be sold to break even is a realistic amount, then the idea should be analyzed further. If the price that would need to be charged is unrealistic, then the idea is not feasible. These same questions can be answered using a set level of profit. An explanation of the math and formula is followed by an example to help illustrate the points. If an idea looks like it has merit after performing this initial analysis, a more detailed analysis should be undertaken (see the following section on scenario analysis).

It is important to understand how to use the formulas for break-even analysis, as well as the logic behind them. It is equally important to see the relationships in the formula and insights that can be gained from understanding the formula. Profit can be calculated simply as:

$$(1) \quad \text{Revenue-TVC-FC=Profit}$$

This formula shows that starting with the amount received for selling the product (revenue) and subtracting the cost of producing the product (variable and fixed costs) results in profit. Notice that there are two kinds of costs: variable and fixed. Variable costs (VC) are costs that come directly from producing each unit of the product, like seeds, and so will change depending on the quantity produced. Fixed costs (FC) are costs that will be incurred regardless of how many units are produced, like rent for land. These costs are also referred to as overhead.

Another way to write this equation is:

$$(2) \quad (\text{Price} \times \text{Q}) - (\text{VC} \times \text{Q}) - \text{FC} = \text{Profit}$$

This means the amount received for each unit sold (price), multiplied by the number of units sold (quantity, or Q), equals revenue. Variable cost is the costs per unit; multiplying VC by the number of units sold gives total variable cost (TVC). Profit is found by subtracting TVC and (FC) from revenue. Insight on how to increase profit can be found just by looking at the equation. To increase profit, the options are to either increase revenue or decrease costs. Decreasing costs is pretty straightforward, but how can revenue be increased?

- Sell more to existing customers. This will increase quantity, and therefore increase profit.
- Find more customers to sell to. This will also increase the quantity sold.
- Find a sales outlet that will increase the per-unit price. For example, selling at a farmers' market may allow a producer to charge a higher price than the commercial or retail price.

Without even working with numbers, asking if any of the above options are possible can often provide insight. The following example of tomato production shows how to perform a break-even analysis and some other analyses using the formulas discussed above.

### *Tomato Example*

Table 1 on the following page shows a sample production budget for a tomato operation, which will be used to show how Equations (1) and (2) can be used. Table 2 builds on Equations (1) and (2) to demonstrate how these formulas can be rearranged to perform a break-even analysis.

To calculate profit, take equation (2) and substitute numbers from Table 1, where price is \$0.24/lb, variable costs are \$0.07/lb and \$0.06/lb, fixed costs are \$565, and the quantity sold was 20,000 pounds (this is found by dividing the revenue amount of \$4,800 by the per-unit price, \$0.24). Line 1 of Table 2 shows that pre-tax profit is found to be \$1,635 (taxes will be discussed later).



**Table 1: Example Tomato Production Budget**

Cost/Income	Total	Per unit (pound)
<b>Revenue</b>	<b>\$ 4,800</b>	<b>\$ 0.24</b>
<b>Expenses</b>		
Inputs	\$ 1,400	\$ 0.07
Labor	\$ 1,200	\$ 0.06
Overhead	\$ 565	\$ 0.03
<b>Total Expenses</b>	<b>\$ 3,165</b>	<b>\$ 0.16</b>
<b>Net Income before taxes</b>	<b>\$ 1,635</b>	<b>\$ 0.08</b>
Income taxes	\$ 605	\$ 0.03
<b>Net Income</b>	<b>\$ 1,030</b>	<b>\$ 0.05</b>

**Table 2: Equations for Break-Even Analysis**

Line	To solve for:	Need to know:	Equation
1	<b>Profit</b>	Quantity Price Variable costs Fixed costs	$(\text{Price} \times Q) - (\text{VC} \times Q) - \text{FC} = \text{Profit}$ $(\$0.24 \times 20,000) - (\$0.06 + \$0.07) \times 20,000 - \$565 = \$1,635$
2	<b>Break-Even Point</b>	Price Variable costs Fixed costs	$(\text{Price} - \text{VC}) \times Q - \text{FC} = 0$ $(\$0.24/\text{lb} - \$0.13/\text{lb}) \times Q - \$565 = 0$
3	<b>Break-Even Quantity</b>	Price Variable costs Fixed costs	$\frac{\text{FC}}{(\text{Price} - \text{VC})} = Q$ $\frac{\$565}{(\$0.24/\text{lb} - \$0.13/\text{lb})} = 5,136 \text{ lbs}$
4	<b>Quantity that must be sold to earn a target profit</b>	Price Variable costs Fixed costs Desired profit	$\frac{(\text{FC} + \text{Profit})}{(\text{Price} - \text{VC})} = Q$ $\frac{(\$565 + \$1635)}{(\$0.24/\text{lb} - \$0.13/\text{lb})} = 20,000 \text{ lbs}$
5	<b>Quantity that must be sold to earn a target profit, including taxes</b>	Price Variable costs Fixed costs Desired profit Tax amount	$\frac{(\text{FC} + \frac{\text{Profit}}{1 - \text{Tax rate}})}{(\text{Price} - \text{VC})} = Q$ $\frac{(\$565 + \frac{\$6500}{1 - 0.37})}{(\$0.24/\text{lb} - \$0.13/\text{lb})} = 98,931 \text{ lbs}$

*Break-Even Point*

In most cases, it will be helpful to figure out how many units (in this case, pounds of tomatoes) need to be sold to “break even”, or cover costs. To do this, Equation (2) is set to zero, as one of the conditions of a break-even point is zero profit (this equation is shown on the Line 2 of Table 2). The price of the product less the variable cost is the profit margin per unit (profit margin per pound of tomatoes). In the example, tomatoes sell for \$0.24 per pound. There are \$0.13 cents in costs per pound (\$0.06 + \$0.07), which leaves \$0.11 per pound (\$0.24 – \$0.13) as the profit margin. Since the break-even quantity is what needs to be calculated, the equation in the second line of Table 2 can be rearranged to solve for quantity, which is shown in the third line of Table 2. Solving for quantity shows that at a sale price of \$0.24 per pound, 5,136 pounds of tomatoes would need to be sold to cover costs.



### *Solving for Profit*

If a certain profit level is desired, the same formula can be used with a slight modification. Just add any profit desired to the fixed costs. This is shown in Line 4 of Table 2. In order to reach the profit goal of \$1,635, a total of 20,000 pounds of tomatoes needs to be grown and sold at \$0.24 per pound. This is a nice formula to use to give an idea of how large the enterprise will need to be. After using this formula, look at markets and production facilities and ask, “Is it possible to produce and sell this many units?” If the answer is yes, then investigate further. If the answer is no, then this may not be a good idea. Another way to ask the question is, “How many customers would need to purchase the product in order to sell this many units?”

### *Taxes*

Often, an owner cannot withdraw the entire amount of profit from a business. Profits must be used to pay taxes, reinvest in the growing business, make principal payments, and cover withdrawals. Below are formulas that can be used to analyze this issue. The first thing required is a tax rate. Most states have around 7-8% income tax rates. Self-employment tax is around 15%, and federal income tax is 10% (or higher). Using a federal tax rate of 15% gives a tax rate of 37%. If this is a side business, the rate should reflect what the owner pays on the last dollar earned, rather than an average rate. For example, the owner normally can use deductions and exemptions to shield some income from taxes, but after that they are probably paying close to the above rates.

Take the after-tax profit needed and divide it by one minus the tax rate (1-0.37, in this case) to get the pre-tax income needed. If \$5,000 is needed for consumption for the family, \$1,000 for the business to buy new machinery, and \$500 to pay on a loan, then a total of \$6,500 is needed after taxes. To figure how much is needed before taxes, take \$6,500 and divide it by (1-0.37). This gives \$10,317.

Line 5 of Table 2 shows the calculation for the quantity of tomatoes that must be sold when taking the desired profit discussed above and taxes into consideration. If \$10,317 is needed in profit before taxes, putting this figure into the formula shows that 98,931 pounds of tomatoes would need to be sold to achieve this pre-tax profit.

If this amount is higher than what can be produced, the idea is not feasible. If this is the case, either the idea should not be pursued further, or other ways to increase per-unit profit should be explored. Often, even small changes in price can lead to larger changes in net income. One possibility is to find new markets in which to sell the product (farmers’ markets, roadside stands, etc.) that will allow for an increase in the price per unit. When looking at other alternatives, it is important to make sure that any changes in the cost are included. For example, if selling at a farmers’ market instead of selling commercially, the cost of getting a booth at the market, the time involved with setting up for and attending the market, and the cost of transporting the product to the market should be considered.

### **Analyzing Different Scenarios**

Before pursuing different options or strategies it is important to look at various scenarios to understand the potential profit and losses. This usually includes looking at how changes in prices, costs, and quantities of each option affect the overall profit. Since there are a lot of unknowns, estimates or guesses are used for some costs, how many customers there might be, etc. By examining how changes in these variables affect profit, a better understanding of the

risks and potential profit can be seen, leading to more informed decisions as to which strategies should be pursued. Because this process involves numerous calculations, it is easier to use a spreadsheet where a few numbers can be changed with the results calculated by the computer. It is important to look at not just an option, but how different assumptions affect the profitability and risk of the option. Often, small percentage changes in price will have larger percentage changes in net income. Conversely, the effect of potential increases in costs of production, such as fuel costs, can also be explored. For the example below, a spreadsheet was created in Excel to assist in figuring the effect of percent changes in revenue and costs on net income (profit). The first step is to create a base scenario, and then look at the changes from changing different assumptions.

### Creating the Base Scenario

The first step in creating the base scenario is to determine revenue (price \* quantity) and various expenses (costs). The numbers in the green cells of Figure 3 can be changed to reflect the current business situation. This can be done a couple of ways, the first of which is to put the total revenue received over the course of a year in the revenue section, and then add in the cost of inputs, labor and overhead. The second option for reflecting the current business situation is to use average amounts rather than total amounts. For example, if a garden center knew that normally for every \$100 in plants sold to a customer, the cost of the plants to the garden center is \$50, while labor costs are \$15. These numbers would go in the green cells. The overhead would be the average cost per \$100 in sales. Depending on the situation, one of the two approaches will be easier. For start-up costs, it is possible to include the whole amount the first year if recouping those costs the first year is the goal of the enterprise. Or a set amount can be included for each year, spreading those costs over a few years. For example, if a loan was used to cover the start-up costs, then the loan payments could be included in the overhead. An average overhead cost of \$20 per \$100 in sales is used for this example. Figure 3 shows what the base scenario would look like based in the numbers just described. Figure 3 also shows the cell locations of the numbers discussed above in the Excel spreadsheet, while Figure 4 shows the Excel formulas that were used to create this scenario analysis. A similar spreadsheet can be made in Excel using these formulas and cell locations, and the examples provided can be used to double-check that the formulas have been input correctly. Note that a tax rate of 37.3% has been used.

**Figure 3: Base Scenario**

	A	B	C	D	E	F
1				% change	New Result	
2	Revenue		\$ 100.00		\$ 100.00	
3						
4	Expenses					
5	Inputs		\$ 50.00		\$ 50.00	
6	Labor		\$ 15.00		\$ 15.00	
7	Overhead		\$ 20.00		\$ 20.00	
8	Total Expenses		\$ 85.00		\$ 85.00	
9						
10	Net Income before taxes		\$ 15.00		\$ 15.00	Percent change in net income
11	Income taxes	37.3%	\$ 5.60		\$ 5.60	
12	Net Income		\$ 9.41		\$ 9.41	0%

**Figure 4: Base Scenario with Formula References**

			% change	New Result	
Revenue		\$ 100.00		=+C2*(1+D2)	
<b>Expenses</b>					
Inputs		\$ 50.00		=+C5*(1+D5)	
Labor		\$ 15.00		=+C6*(1+D6)	
Overhead		\$ 20.00		=+C7*(1+D7)	
<b>Total Expenses</b>		=SUM(C5:C7)		=SUM(E5:E7)	
<b>Net Income before taxes</b>		=+C2-C8		=+E2-E8	<b>Percent change in net income</b>
Income taxes	37.3%	=+C10*B11		=+E10*B11	
<b>Net Income</b>		=+C10-C11		=+E10-E11	=+(E12-C12)/C12

*Changing the Assumptions*

Once the numbers with the green background are correct, the numbers in yellow can be changed to see how the bottom line changes based on different assumptions. In other words, it will show examples of how much net income will change when other factors of production, such as revenue, changes. To see how this works, a few different situations are given below using the same situation as described above. The following are three example situations.

- 1. Volume of sales increase by 10% (Figure 5).** In this case both revenue and the cost of labor and inputs would increase by 10%. So 10% would be typed into the yellow cells for those three things, resulting in net income increases from \$9.41 to \$11.60, a 23% increase.

**Figure 5: Volume of Sales Increase by 10%**

			% change	New Result	
Revenue		\$ 100.00	10%	\$ 110.00	
<b>Expenses</b>					
Inputs		\$ 50.00	10%	\$ 55.00	
Labor		\$ 15.00	10%	\$ 16.50	
Overhead		\$ 20.00		\$ 20.00	
<b>Total Expenses</b>		\$ 85.00		\$ 91.50	
<b>Net Income before taxes</b>		\$ 15.00		\$ 18.50	<b>Percent change in net income</b>
Income taxes	37.3%	\$ 5.60		\$ 6.90	
<b>Net Income</b>		\$ 9.41		\$ 11.60	23%

2. **Prices increase by 10%, but nothing else changes (Figure 6).** This may arise if the owner decides to increase prices under the assumption that the same volume can still be sold. Type 10% in the top yellow box corresponding to revenue and clear all the other boxes. The result is that revenue increases by \$10 to \$110 and net income increases by 67%.

**Figure 6: Prices Increase 10%, Everything Else Constant**

			% change	New Result	
<b>Revenue</b>		<b>\$ 100.00</b>	<b>10%</b>	<b>\$ 110.00</b>	
<b>Expenses</b>					
Inputs		\$ 50.00		\$ 50.00	
Labor		\$ 15.00		\$ 15.00	
Overhead		\$ 20.00		\$ 20.00	
<b>Total Expenses</b>		<b>\$ 85.00</b>		<b>\$ 85.00</b>	
<b>Net Income before taxes</b>		<b>\$ 15.00</b>		<b>\$ 25.00</b>	<b>Percent change in net income</b>
Income taxes	37.3%	\$ 5.60		\$ 9.33	
<b>Net Income</b>		<b>\$ 9.41</b>		<b>\$ 15.68</b>	<b>67%</b>

3. **Costs of inputs rise by 10% (Figure 7).** This might be due to higher gas prices or something else. Leave all the yellow cells blank except for the one for inputs. In the yellow cell for inputs type 10%. The result is that net income would go down by a third (33%).

**Figure 7: Cost of Inputs Increases 10%**

			% change	New Result	
<b>Revenue</b>		<b>\$ 100.00</b>		<b>\$ 100.00</b>	
<b>Expenses</b>					
Inputs		\$ 50.00	10%	\$ 55.00	
Labor		\$ 15.00		\$ 15.00	
Overhead		\$ 20.00		\$ 20.00	
<b>Total Expenses</b>		<b>\$ 85.00</b>		<b>\$ 90.00</b>	
<b>Net Income before taxes</b>		<b>\$ 15.00</b>		<b>\$ 10.00</b>	<b>Percent change in net income</b>
Income taxes	37.3%	\$ 5.60		\$ 3.73	
<b>Net Income</b>		<b>\$ 9.41</b>		<b>\$ 6.27</b>	<b>-33%</b>

### *Cautions and Limitations*

The scenario analysis tool is meant to provide a quick overview of the potential risks and profits; it is not meant to be the end of the analysis. If something is really sensitive (results change dramatically with small changes in assumptions), a more detailed analysis may need to be conducted. It is also important to be realistic and include all costs. If a big increase in volume is considered, it may also increase overhead due to a need for different equipment. Graphing or creating a table of the results of different changes in assumptions can be useful to compare the scenarios side by side. For example, different assumptions on the price that would be received and expected profit could be graphed.

## Conclusions

Niche markets by definition have unique characteristics that can affect the price of the product and price premiums over time. Under good conditions this means that the prices can be quite high, but small changes in the supply of the product can cause much larger decreases in price. So over time, as more suppliers enter the market, price premiums usually go down. Strategies that small producers might consider include product differentiation, which helps a product to maintain its unique quality even as other suppliers enter the market, growing the market by continuing to find new customers at an equal or greater rate than the supply expands, so that price premiums can still be earned, and continuing to innovate to develop products niche markets may find compelling. Regardless of the strategies or ideas that are pursued, it is important to look at potential profitability and how different assumptions affect the profitability of the product.

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## Strategies for Competitive Advantage

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### Overview

A competitive advantage is an advantage gained over competitors by offering customers greater value, either through lower prices or by providing additional benefits and service that justify similar, or possibly higher, prices. For growers and producers involved in niche marketing, finding and nurturing a competitive advantage can mean increased profit and a venture that is sustainable and successful over the long term. This fact sheet looks at what defines competitive advantage and discusses strategies to consider when building a competitive advantage, as well as ways to assess the competitive advantage of a venture.

### The Essence of Competitive Advantage

To begin, it may be helpful to take a more in-depth look at what it means to have a competitive advantage: an edge over the competition. Essentially a competitive advantage answers the question, “Why should the customer purchase from this operation rather than the competition?” For some ventures, particularly those in markets where the products or services are less differentiated, answering this question can be difficult. A key point to understand is that a venture that has customers has customers for a reason. Successfully growing a business is often dependent upon a strong competitive edge that gradually builds a core of loyal customers, which can be expanded over time.

Producers and suppliers familiar with farming and ranching may know that successful ventures in the agriculture industry have typically operated in a commoditized, price-driven market, where all parties produce essentially the same product. Such conditions imply that the ultimate “winners” are the most cost-efficient producers, meaning that agricultural producers have historically relied on strategies that focused on lower costs and higher volumes (i.e. a bushel of hard red winter wheat is assumed to be of similar quality across the entire high plains region, meaning each bushel is assumed to be of the same value; so there is an incentive for producers to keep prices low and volume high).

With the advent of product differentiation and niche and direct marketing, that reality has changed, and now there are niche markets in which both individual and wholesale buyers are looking for products with very specific characteristics or special services. These characteristics often use strategies that don’t focus on costs and volumes exclusively; rather the product or service may be of premium quality, be differentiated from other products and services available in the market (such as organic, natural, or humane production), or have a value-added component (i.e. flavored meats, pre-washed salad mixes, etc.).

Successful ventures perform a combination of business activities well, including marketing, production, distribution, finance, customer service, and/or other activities important to the enterprise. However, a competitive advantage is often a single key element that gives an edge to a business beyond what the competition has or does.



# 10 Reasons Businesses Succeed

- 1. The experience and skills of the top managers.** Over half of business failures are directly related to managerial incompetence.
- 2. Energy, persistence and resourcefulness (the will to make the business succeed) of the top managers.** Many business owners have failed or come close several times before their “instant” success. Don’t give up.
- 3. A product that is at least a cut above the competition and service that doesn’t get in the way of people buying.** There must be a compelling reason to buy; the product is great, the people love to provide service, the buying experience is easy and fun, etc.
- 4. The ability to create a “buzz” around the product with aggressive and strategic marketing.** Make scarce marketing resources count. Do as much homework about your customers and their choices as you can before investing your marketing dollars.
- 5. Deal-making skills to sell the product at the highest possible price given your market.** It comes down to your customers’ perception of the value of your product and sometimes the power of your personality.
- 6. The ability to keep developing new products to retain and build a customer base.** Consider gradual product development based on improvements to the current product line and sold to the current customer base.
- 7. Deal-making skills to work with resource suppliers to keep costs low.** Keeping costs lower than competitors’ and continuing to look for cost reductions even when the business is profitable is key.
- 8. The maturity to treat employees, suppliers and partners fairly and respectfully.** Trust and respect result in productivity increases in ways that may be difficult to see and quantify.
- 9. Superior location and/or promotion creating a connection between your product and where it can be obtained.** Studies have shown it can take seeing your product or name seven times before a customer is ready to buy.
- 10. A steady source of business during both good economic times and downturns.** Over the long term, develop a product mix that will include winners during good economic times and other winners when times are tough.

(King, 2005)

Mastery of that single key element often provides marketers with a distinct niche in the marketplace and may lead to the creation of a competitive advantage that serves to establish or preserve success. To be successful in this environment, a manager needs to identify those activities at which the management and the venture excel, not just activities in which they perform equally well with the competition.

## Potential Strategies for Differentiation

The following strategies may be helpful in differentiating a product or service from those of the competition. It is important to keep in mind that a venture’s most effective differentiation—the one that will bring the venture the most success—will likely come from just one or two strategies.





### *Product Features and Benefits*

What makes the product unique and desired? Consider product characteristics such as style, handling, taste, quality ingredients, comfort, production methods (such as natural or organic), certification and so on. Are the product characteristics significantly different from those of currently available products? Can the venture provide these features or benefits effectively?

### *Location(s)*

What about the venture's location is a draw to customers? The office or store location is often a very important factor, particularly for ventures selling directly to the public. Location should be chosen with care, preferably in an area near customer traffic. For example, in a farmer's market setting, is the booth located in a visible, convenient, and accessible place? Being tied to an existing location will directly influence other decisions, such as marketing, product distribution (such as mail order/Internet versus roadside stand), and even product selection. If this is the case, would it be possible for the venture to partner with someone who has a better location, if the one provided is not as attractive?

### *Staff*

Consider the factors which ensure that front and managerial staff produce a good product and provide a positive customer experience. Does the venture's personnel follow these factors? Do they act professionally? Do they have expertise with the product, on which customers can rely?

### *Operating Procedures*

What policies, processes, and standards could be employed to smooth operations, create value, and offer a positive customer experience?

### *Price*

What fundamental cost advantage does the venture have which would justify permanently low prices? Most ventures operating in the same industry in a location will tend to have pretty much the same cost structure, meaning that when one competitor cuts price, others usually follow, thus erasing whatever advantage the first competitor gained by reducing prices. Ways to achieve a fundamental cost advantage might be through lower overhead or shipping costs (perhaps through geographic closeness to markets), cheaper labor, and/or low-priced raw materials (perhaps through long-term purchase agreements).

### *Customer Incentive Programs*

Does the venture employ programs to attract new and repeat customers through efforts such as giveaways, coupons, sales, promotions, and/or volume discounts?

### *Guarantees and Warranties*

If the venture is conveying to customers that it provides a quality product, is that perception reinforced with guarantees and warranties?

### *Brand Name Recognition*

A carefully conceived and executed marketing plan with a focus on the customer is a major contribution to business success. A good marketing strategy can be enough to differentiate one



business from the rest, all other things being equal. Brand name recognition is reliant upon a good marketing strategy and a consistent, reliable product and venture. Ventures who do not have the resources available to market themselves as their own brand may want to consider joining an alliance or cooperative to market their product under a recognizable brand name.

#### *Goodwill*

Is the business venture recognized within the community as a contributor and a valuable member?

#### *Value-Added Products/Services*

Does the venture offer a further service or more developed product? These value-added aspects may often be free with the purchase of a product, such as free installation or delivery.

#### *Extended Growing/Operating Season*

Is the venture's product available before or after competitors' products? For instance, with sweet corn, is it the first available of the season?

#### *Soils, Buildings, Location, and Landscape*

Do the physical facilities and resources of the venture contribute to the quality of what is being produced and sold?

#### *Water, Access to Irrigation, and Wetlands*

Are there sufficient water resources available to produce a product which might not typically be produced in the region? Is it possible to differentiate the venture to consumers by performing good stewardship of the venture's water resources?

#### *Weather*

Is the weather conducive to producing and selling the product or service? For instance, common weather resources are wind, rain, and sun. While in a small geographic area these same resources would be available to all competitors, a venture that is trying to compete in a larger geographic area may face competition from producers located in an entirely different region, who are exposed to different weather resources.

#### *Plants and Animals*

If the venture is agritourism-based, then what wildlife can be supported? For example, can the agritourism venture involve bird watching, or is livestock available for a petting zoo or for rides? For more traditional operations, can the venture's location support the plants and animals that are intended for use? Can the venture offer a unique heirloom variety or exotic breed with potential benefits?

#### *Organization and Alliances*

Does the venture have unique alliances or sources of supply? Some ventures are able to pool resources to provide a unique offering, such as through a cooperative.

### *Customer Experience*

Providing customers with additional information about the farm/ranch is a way for clients to connect to the physical operation. This connection can be strengthened through identifying with the farmer/rancher or visiting the farm/ranch (or the website and making a connection there), as well as through educational resources such as recipes and information about the history of and people associated with the farm or ranch (the “farm/ranch story”).

### *Quality*

With all of the above potential sources of competitive advantage, quality is an underlying factor. Successful ventures offer consistent quality, so an important consideration for any venture is how quality is going to be perceived and measured. In some cases quality may be related to value-added strategies, such as obtaining third party certification for organics, kosher production, etc. In other cases, quality may be related to the fact that the product being offered is of a higher physical quality than the competitor’s product, or from providing excellent customer service.

## **Competitive Advantage Evaluation Process**

When a business is just starting out, it may be worthwhile to perform a comprehensive evaluation of the business’ goals and how it might fit into the market.

### *Evaluate Resources*

The basis for a competitive advantage often lies in the resources and abilities that are already available, even though the resources may not initially be recognized. Begin by taking a critical look at the existing resources and product/service offerings. What does the venture have that could be used as an advantage? Reading through the potential options for competitive advantage above, which of these resources are already available and which does the venture need to obtain in order to focus one or more of the strategies?

### *Clarify Goals*

Has a clear idea of what the venture seeks to accomplish been established? Businesses with specific and achievable goals tend to have better and more consistent growth. Challenging, but realistic goals should be written out to help clarify what the business will do for itself and its customers in the future. These goals will become benchmarks for success and will help maintain focus among all involved parties.

### *Define Customers*

Determining the products and services customers want and cannot get from the competition is a first step toward defining the business’ potential customers. Once the needs and wants of the potential customers have been established, the characteristics of those customers can be examined in an effort to identify commonalities. For instance, the development of salad mixes came from the realization that for convenience, some consumers needed a pre-washed and mixed salad alternative, rather than bunches of greens that needed to be rinsed and spin-dried.

When developing a hypothesis about what potential customers will buy, speaking to potential customers will provide an understanding of their needs. This may help the venture to learn about what features customers need and what they will pay for, and provides an opportunity to ask them for additional suggestions. Additionally, there are many research sources available through

publicly available sources (see the “Resources” section of this fact sheet), and venture-specific research can be organized through surveys, focus groups, questionnaires, and observation (for examples, please see fact sheet WEMC FS#7-08, “Conducting Market Research Using Primary Data” in this publication). Such research can help the venture to be sure that there is a large enough market for the product/service.

### *Examine Competitors*

With an understanding of what customers want and an idea of how this can be provided, it is important to take a look at other ventures that might be targeting the same market. First, look at the direct competition. For example, a venture selling fresh produce in a farmers’ market would have direct competition from other vendors at the market, while the indirect competitor would be grocery stores in the same area. Once the competition has been identified, compare the strengths and weaknesses of the competition to the strengths and weaknesses of the venture. This will provide more insight as to where the venture’s competitive advantage lies.

### **Make Sense of it All**

In the end, building a competitive advantage will involve understanding the needs of the market (customers), and devising a strategy to make use of the resources that are available (or can be obtained) to set the business apart from the competition. The strategy will need to take into account the target market, the business’ strengths and weaknesses, the business’ goals, the product/service the business has developed, and the strategies of the competition. Key questions to address include:

- Are the business and the target market clearly defined?
- Who is/are the business’ competitors?
- What is the business’ specific strategy for success?
- Are the competition’s moves being tracked regularly?
- Is the business taking advantage of the competition’s weaknesses and/or any competitive opportunities?
- What has been learned from the competition’s mistakes/strengths?
- How do the business’ prices and products compare with the rest of the industry?
- Who are the customers? Does the business have (or can it build) a loyal base?
- Are the employees trained in customer service?
- What trends are ahead, and can the business take advantage of them?

*“Building sustainable competitive advantages revolves around differentiating a product from the competition along attributes that are important and relevant to customers.” (Barone and DeCarlo, 2003)*

### **Keeping the Edge Sharp**

Competitive advantages don’t tend to stay competitive advantages without significant effort. Over time the edge may erode as competitors try to duplicate a successful advantage for themselves and as the market changes. Half the battle is establishing the competitive edge, while the other half is maintaining it. Continual analysis of the venture’s product offering and management will help the venture to stay current with the situation.



## Resources

The following resources are a brief overview of agencies and organizations that may be helpful in building or strengthening a competitive advantage.

Information about value-added agriculture can be found at USDA's Agricultural Marketing Resource Center website, at [www.agmrc.org](http://www.agmrc.org). The website provides information about commodities and products, market and industry trends, business creation and operation, research results, and value-added resources.

Appropriate Technology Transfer to Rural Areas (ATTRA) provides a National Sustainable Agriculture Information Service, which is a multi-state organization dedicated to providing information to farmers, ranchers, Extension agents, and others. This effort is managed by the National Center for Appropriate Technology (NCAT) and funded under a grant from the USDA's Rural Business-Cooperative Service. ATTRA can be found on the Internet at [www.attra.org](http://www.attra.org), or by calling 1-800-346-9140, while information about NCAT can be found at [www.ncat.org](http://www.ncat.org) or at 1-800-ASK-NCAT (1-800-275-6228). USDA's Rural Business Cooperative Service is online at [www.rurdev.usda.gov/rbs/](http://www.rurdev.usda.gov/rbs/), and a directory of individual state offices is available at 1-800-670-6553.

The Digital Center for Risk Management Education provides an online budget library at [www.agrisk.umn.edu](http://www.agrisk.umn.edu). This group is funded by the Cooperative State Research, Education, and Extension Service (CREES).

The National Agricultural Library (NAL) of the USDA seeks to advance access to global information for agriculture. NAL online provides access to agriculture-related news articles, research, and links to other agriculture information sites, and features a resource where users can ask questions of the library's professional reference staff. NAL's online resources can be found at [www.nal.usda.gov](http://www.nal.usda.gov).

The U.S. Small Business Administration (SBA) is an independent federal agency created to aid, counsel, assist, and protect the interests of small business concerns, as well as to preserve free competitive enterprise and to maintain and strengthen the overall economy. More information on the SBA can be found online at [www.sba.gov](http://www.sba.gov), while questions can be directed to the SBA Answer Desk at 1-800-U-ASK-SBA (1-800-827-5722).

Sustainable Agriculture Research and Education (SARE) is supported by USDA and CREES. The goal of SARE is to provide grants and information to improve profitability, stewardship, and quality of life. SARE's website provides information about sustainable agriculture, links to data, reports, and publications, and information about available grants and the grant application process. SARE can be found online at [www.sare.org](http://www.sare.org).



# Alternative Enterprising Definitions

Alternative enterprising can mean marketing an existing product differently, adding value to a product before it is sold, or adding a new enterprise (new product or service) to the mix. Alternative enterprising is also referred to as *enterprise diversification*. Aside from the production of food and fiber, alternative enterprising includes the following activities:

**Agritourism:** inviting the public onto a farm or ranch to participate in various activities and enjoy an agricultural experience. Agritourism enterprises include bed and breakfasts, for-fee fishing or hunting, pick-your-own fruits/vegetables, corn mazes, farm markets, and much more.

**Agritainment:** providing the public with fun on-farm or on-ranch activities, such as haunted houses, mazes, miniature golf, horseback riding, and hayrides.

**Agrieducation:** formal and informal education about agriculture through signage, tours, hands-on classes, seminars, etc.

**Cultural and Heritage Tourism:** the use of historic and cultural attractions to teach visitors about the past and present.

**Direct Marketing:** any form of marketing in which a consumer purchases a product or service directly from a producer.

**Nature Tourism:** consumptive and non-consumptive use of the natural resources. Nature tourism ranges from birding, rock climbing, camping, hiking, stargazing, and even skydiving, to hunting and fishing.

**Value-Added:** a product whose appeal to consumers has been increased through packaging, processing, marketing, or production practices or services. Each step of adding value to a product is an alternative enterprise.

(Southern Maryland Resource Conservation and Development Board, 2004)

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## **Marketing and Promotion Resources: Leveraging Existing Programs and Resources**

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### **Overview**

One of the most important marketing decisions that managers may need to make centers around determining the most effective way to promote their business and products. This fact sheet will provide some guidance by defining some of the primary roles and forms of promotional activities. For niche markets, effective promotion may mean translating the venture's message to the appropriate type of marketing materials and media. Since promotional strategies may not be at the top of a firm's list for investing available resources, researching the existing public resources available for local and direct marketing in the Western region may be more cost effective.

Promotion is considered to be one of the "4 Ps" commonly used in marketing plan strategy (the others being price, product, and place). It is essential that promotion is complementary to, and leverages, the other elements as well. Most people understand that promotion includes advertising, public relations, and sales activities, but fewer understand the intended role of promotion, which of the activities it will affect, and how it will affect them. When done correctly, promotion influences the attitudes and buying behaviors of customers in a target market. More specifically, a firm's activities should encourage product purchase and market expansion, so promotion is important for positioning and firmly establishing a product in the market. This is a slightly different challenge for niche markets since, by definition, the product and its potential appeal are narrowly targeted at a specific set of consumers who may only be receptive to messages from a small range of media, sales strategies, and influencers.

An effective promotion strategy will reach target customers through several types of media. These may include the following:

- Print media: residential mailers and brochures
- Electronic media: websites and Internet advertising
- Published media: newspapers, magazines, and coupons
- Broadcast media: television and radio

Traditional media avenues include newspapers, radio advertising, yellow pages, and advertising with local and state agencies. Although these media avenues can be successful, it is imperative that the chosen media be appropriate for the target market. For example, if the target market is working women, aged 25-35, it would be best to conduct radio advertising during commute times, or use newspaper advertising on the weekends, as this market is likely to read the newspaper only on Sunday. The section of the newspaper the advertising falls under is also important.





Although newspapers are a traditional advertising outlet, they may be too broadly defined to effectively target a niche's likely consumers. When discussing the limitations of print media, it is important to consider the differences between mass and target marketing. Mass marketing generally relies on one message targeted at the "average" or representative consumer, so broadcast media (such as newspapers) will be effective. Target marketing, on the other hand, is based on the idea that customer segments are motivated by different claims, messages, or stories. Because of this, large-scale media outlets are less likely to be cost effective, but some media (Internet, targeted ads in radio, television and publications) may work.

Other uses of promotional tools in target marketing are informational brochures and taste samples. Additional interactive food and nutrition information sources were positively linked with customers purchasing food products directly from producers when Thilmany et al. (2007) studied credibility and desirability of different information sources. This finding reinforces the effectiveness of marketing food information among direct buyers when it is provided through newsletters and sample booths to target direct buyers.

### **Electronic Media**

Thilmany et al. (2007) found that online food and nutrition newsletters may be an equally good venue (relative to personal newsletters and information booths at markets) to advertise products, farmers' markets, CSAs, and road side stands. Because they can be customized and updated frequently, Web sites can be powerful marketing tools and are recommended as the basis of a promotion plan. The drawbacks are the potential lack of expertise and experience in this type of marketing and promotion development. The website design is important in building brand awareness and connecting products to consumers. There are companies who build websites and include hosting and other support services as part of a package. An Internet marketing services firm, We Build Pages, has several agriculture website templates available for purchase, starting at \$56.00 ([www.webuildpages.com](http://www.webuildpages.com)). Additionally, eatdrink.com builds unique websites to promote products and services ([www.eatdrink.com](http://www.eatdrink.com)). Numerous Internet service providers (ISPs), such as Earthlink.net, offer hosting and shopping cart services for various monthly fees.

Whether considering print or electronic media, a promotional campaign must have a theme, and begs the question:

- Does the business have a unique story that is targeted at a small set of consumers?

If the answer to this question is yes, it is likely that the business can connect with consumers in a more interactive and personal promotional venue. In short, the business manager should consider:

- Are there more cost effective (or free!) methods?

Public relations, including community service or events, is often overlooked in promotional strategies, but can be a very effective and inexpensive way to raise the firm or product's image with potential consumers. Similarly, the word of mouth gained from trade shows, exhibitions, and sales promotions are ways to connect trials, education, and demonstrations of the product with getting the word out to the public. In the case of niche food products, many would argue that word of mouth referrals to friends and family is the most cost effective way to reach new customers, so consideration should be given to how satisfied customers might be encouraged to "spread the word." Such methods of encouragement might include coupons to distribute to friends, inexpensive gift bundles (for them to share with others) and thanking them with special

deals if it is known they are referring others to the business. However, if the firm's marketing budget is limited, it may be effective to explore an even greater array of free and minimal cost public promotional resources.

### **Existing Promotional Resources to Serve Niche Markets**

Although there are a great number of promotional resources that have emerged over the past few years to support alternative, value-added, and direct marketing efforts by agricultural producers, the following is a summarization of some of the most complete, representative, and relevant ones for niche producers in the West.

The Agricultural Marketing and Resource Center (AgMRC) is a very broad-based marketing resource for producers and represents the partnership of three major university programs, with resources and references from numerous additional organizations. In terms of promotional resources directly available for producers to consider, the link to "Directories and State Resources" lists a number of directories (many free), to which producers can submit their business for inclusion. Along with many of these links are individual state contacts, who may provide technical assistance and marketing programs. These resources may include directories, market statistics, databases, workshops, networks with potential buyers and/or free marketing materials for state-branded programs (see Figure 1 for Colorado example). AgMRC can be found online at [www.agmrc.org](http://www.agmrc.org).

AgMRC is also a major partner in an emerging national program, MarketMaker, which seeks to link agricultural buyers and sellers. The University of Illinois began MarketMaker (which can be found online at [www.marketmaker.uiuc.edu](http://www.marketmaker.uiuc.edu)) as a state-level resource, but it is now a national partnership of land grant institutions and state departments of agriculture dedicated to the development of a comprehensive interactive database of food industry marketing and business data. It is currently one of the most extensive collections of searchable food industry-related data in the country (Figure 2 shows a sample mapping of markets in Iowa and Nebraska, created by MarketMaker). The promotional opportunities with MarketMaker are great, as it can help all types of buyers (consumers, restaurants, institutions) to find producers who sell direct, while also allowing producers to potentially network for distribution and sales. There are currently nine states online with MarketMaker and Colorado will be the first Western state to participate. Interested parties should contact their local state university or department of agriculture to see if their state is considering joining this partnership.

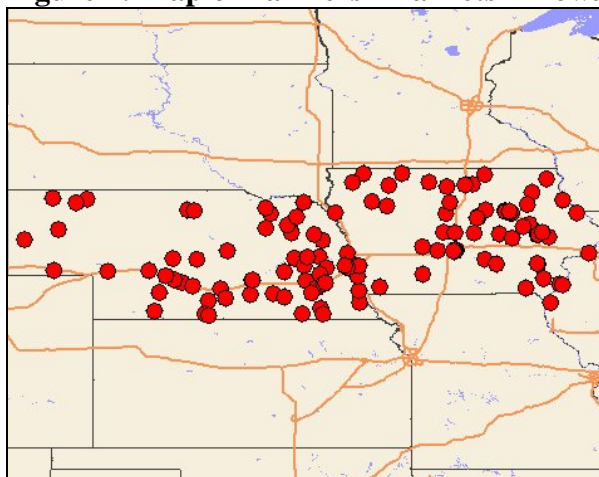
An existing resource available to all producers nationwide is LocalHarvest. Producers can be listed on LocalHarvest's website ([www.localharvest.org](http://www.localharvest.org)) as a means of direct marketing their products. LocalHarvest was founded in 1998, and, according to the website, is both the number one informational resource for the "Buy Local" movement, and the top place on the Internet for people to find information on direct marketing family farms. LocalHarvest is primarily oriented towards direct-to-consumer sales, but as the site grows, buyers for restaurants and stores may begin using it. Currently, LocalHarvest has approximately 9,000 members, and estimates that they gain 8 new members every day. LocalHarvest estimates that through their servers, website, and partner websites, their website garners about 1.5 million page views per month from the public interested in buying food from family farms.

**Figure 1: Example of State Resources from AgMRC**

### Colorado State Resources

- [Cooperative Colorado Research, Education & Extension Service Partners](#)
- [Colorado Department of Agriculture](#)
- [Colorado Fact Sheet, Economic Research Service, USDA](#) - This specific fact sheet includes current data on population, per-capita income, earnings per job, poverty rates, employment, unemployment, farm and farm-related jobs, farm characteristics, farm financial characteristics, top agricultural commodities, top export commodities and top counties in agricultural sales.
- [Colorado Farmers Markets](#)
- [Colorado Marketing Profile](#)
- [Colorado Small Business Development Center](#)
- [Colorado USDA Rural Development](#)
- **More Links:**
  - [Checklist for Start-up Food Processors](#), State of Colorado Department of Agriculture.
  - [Colorado Agricultural Statistics Service](#)
  - [Colorado Agritourism](#)
  - [Colorado Department of Agriculture, Markets Division](#): Helps to increase marketing and processing opportunities for Colorado's agricultural industry
  - [Colorado Extension Service County Offices](#)
  - [Colorado Farm Fresh Directory](#)
  - [Colorado Food and Agricultural Directory](#)
  - [Colorado Proud](#) - Helps producers and processors market their products.
  - [Consumer Protection Division](#), Colorado Department of Public Health and Environment.
  - [Publications & Business Development Tools](#): Farm Fresh Directory, Hay Directory, Checklist for Start-Up Food Processors, etc.

**Figure 2: Map of Farmers' Markets in Iowa and Nebraska from MarketMaker**



## Government Marketing Programs, Grants and Resources

The United States Department of Agriculture (USDA) offers important agricultural marketing information, programs and grants. A summary listing includes:

- Value Added Product Development Grants
  - Administered through Rural Development at USDA and targeted towards value-added product and marketing activities by producers (feasibility and working capital grants)
  - Working Capital grants can underwrite an enterprise's initial marketing and promotion activities
  - Online at [www.rurdev.usda.gov](http://www.rurdev.usda.gov)
- Federal State Marketing Improvement Program
  - Administered through state level Departments of Agriculture
  - Market research and exploring new methods of marketing
  - Great way to do analysis on the effectiveness of different promotional methods, but would want to show the broader applicability to the state's agriculture sector
  - Online at [www.ams.usda.gov](http://www.ams.usda.gov), under "Wholesale and Farmers' Markets"
- Sustainable Agriculture Research and Education Program
  - Regional, so Western proposals managed in region
  - Several categories of grant programs
  - Producer grants could be used to explore promotional options for targeted niche and alternative markets
  - Research and education can be performed if the venture partners with universities or other technical assistance organizations
  - Online at [www.sare.org](http://www.sare.org)
- Other competitive programs from USDA
  - Community Food Projects
    - See the Hunger & Food Security Program under "Food, Nutrition, & Health" at [www.csrees.usda.gov](http://www.csrees.usda.gov)
  - Small Business Innovation Research-Markets and Trade
    - See [www.csrees.usda.gov/funding/sbir/sbir](http://www.csrees.usda.gov/funding/sbir/sbir) for funding opportunities

## Conclusions

Understanding the venture's promotional goals is the first step in deciding which tools will work most effectively. This fact sheet presents examples of how niche agricultural firms wanting to target their message to customers can forego advertising and broadcast media for more targeted and personal methods. If firms research the lower-cost public resources for promoting the product and business, including state and regional directories or online databases, they might accomplish their marketing goals and stay within a reasonable marketing budget.

## References

Thilmany, D., J. Keeling-Bond, C. Bond, C. Stushnoff, F. Stonaker, P. Kendall and M. Bunning (2007). "Eat Your Fruits and Veggies: Exploring Fresh Produce Market Choices." *Journal of Food Distribution Research* 38(1):154-160.



# Conducting Market Research Using Primary Data

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## Overview

Market research is often conducted to address one or more of the “4 Ps” of marketing (product, price, place, and promotion). The purpose of market research should be clearly defined prior to conducting the research. This means the problem that needs to be solved and the information necessary to find the solution should be outlined before undertaking any research (Salant & Dillman, 1994). In the case of food and agricultural producers seeking to identify customers for their products, this often translates to the following questions:

- Who are the potential customers?
  - What are their demographic characteristics (income, education level, family size, etc.), attitudes, or concerns?
- What products appeal to customers?
  - If hoping to meet a niche’s needs, what product characteristics appeal to that niche? Can the characteristics of an existing product be altered to meet those needs?
- When are customers purchasing products?
  - Is the product’s appeal seasonal in nature? Is there a day of the week or time of day the product will be most appealing?
- Where do potential customers purchase similar products? How should products be distributed to reach these customers?
  - Should the product(s) be sold direct through farmers’ markets or CSAs (community supported agriculture), or retailed through specialty stores?
- Which promotional outlets should be used to reach these customers?
  - Should radio advertising be used, newspaper ads, bulk mail, or other?

## Primary and Secondary Data

Secondary data is information that has already been collected and is usually available in published or electronic form. Secondary data has often been collected, analyzed, and organized with a specific purpose in mind, so it may have limited applications to specific market research. However, some of the advantages of using secondary data for market research include both cost and time savings. Data that has been published by government agencies is readily available and free of charge, while data collected and analyzed by private companies may require permission for use. Secondary data can be found through company reports, government agencies such as USDA’s Economic Research Service (USDA-ERS) and Agricultural Marketing Service (USDA-AMS), newspaper articles, Extension publications, etc. Further information on secondary data can be found in the “additional resources” section at the end of this fact sheet, as well as in fact sheet WEMC FS#8-08, “Estimating Market Potential Using Published Data: A Trade Area Analysis Example” included in this publication.





Primary data is collected specifically to address the problem in question and is conducted by the decision maker, a marketing firm, a university or Extension researcher, etc. Unlike secondary data, primary data can not be found elsewhere. Primary data may be collected through surveys, focus groups or in-depth interviews, or through experiments such as taste tests.

## Surveys

Surveys are perhaps the most common method of primary data collection. There are a variety of different survey collection methods, including mail surveys, telephone surveys, face-to-face (in-person) interviews, Internet surveys, and dot surveys. Less formal surveys methods may also include observation and informal interviews. The choice of which survey method to use depends on many factors, including the number of respondents the surveyor desires, the time frame in which the data must be collected, the characteristics of the population to be surveyed, and, of course, the budget. Below are just a few of the advantages and disadvantages of these different survey methods. It is important to note that with all of these data collection methods, the collected data is hypothetical in nature, meaning that an individual may say that he or she is willing to pay a certain price for something in the market, or that they value certain product characteristics, but that does not mean the person will actually pay that price or purchase a product with those characteristics in the real world.

### *Mail Survey*

Mail surveys can be an effective way to reach a large population in a relatively inexpensive fashion. A mail survey is a written survey that the surveyor mails out to a sampling of households. When conducted by marketing firms and universities, the goal is to have the surveys reach a random sampling of households in the area of interest (i.e. county, state, region), or to reach a targeted population of individuals (for example, persons who held a state fishing license in a given year, or people who belong to an environmental organization). However, in the context of smaller agricultural firms looking to gain more information about potential customers, a mailing list of households can be made by using a local phone book, or Internet resources such as the online yellow pages ([www.yellowpages.com](http://www.yellowpages.com)), both of which are free of charge. The survey is generally mailed out with a postage-paid return envelope so they can be mailed back at no charge to the individual.

One disadvantage of mail surveys is that response rates (the number of people who return their completed survey) are typically low unless more than one piece of communication is sent to the person, in the form of an advance notice that a survey is being sent out, a post card reminding the person to complete the survey, or additional surveys. This increases the costs of the survey, both in terms of money and time. Other disadvantages are the lag time that often occurs between when a survey is mailed out and when it is returned, if it is returned at all, and the fact that sometimes surveys are returned, but are too incomplete to be useful.

### *Telephone Surveys*

Telephone surveys are conducted by calling individuals and having them answer questions over the phone. While an advantage of the telephone survey over the mail survey is the fact that the interviewer can encourage the person to complete the survey and the responses can be analyzed immediately, people wishing to conduct market research on a small budget may find the wage paid to the interviewers prohibitive. As with mail surveys, researchers conducting a

large-scale telephone interview need access to a large, random sample of individuals, but for a smaller firm with budget considerations, a list of people to call can be made up from a phone book, or online directory.

### *In-Person Interviews*

In-person interviews have some of the same advantages and disadvantages of telephone surveys. On the plus side, an in-person interview can be an effective way to get completed surveys, and the responses can be analyzed immediately. On the negative side, in-person interviews are costly to conduct, and some individuals may be put off by being approached for a survey or may not be willing to reveal some information about themselves to a stranger. However, another potential benefit is that a very specific population can be targeted using in-person interviews. For example, if individuals who shop at certain grocery stores or farmers' markets are the population of interest, then the interviews can be conducted in front of, inside, or near the store or market. In most cases, it will be necessary to have permission from the store or market to conduct such interviews.

### *Internet Surveys*

The advantages and disadvantages of Internet surveys are a sort of hybrid of those of telephone, mail, and in-person surveys, although they have their own unique characteristics as well. To begin, an Internet survey will only be useful if the population of interest has Internet access. Of course, the person conducting the survey must have a modicum of Internet savvy as well. Once this is assured, there is the issue of determining how to contact the population of interest. It is possible to mail out postcards or letters inviting individuals to participate in the survey, or there are companies who specialize in marketing via the Internet (Survey Monkey, for example, has services to both host surveys and contact a random or targeted sampling of individuals to take the survey). Advantages of Internet surveys are that they may be completed faster than mail surveys, and depending on how the survey is hosted, may be less expensive to conduct than the other survey types. Additionally, some Web survey hosts offer resources to analyze the data for the user, making the process a bit more simplified for surveyors without prior surveying experience or strong statistical skills. Disadvantages include contacting the individuals in the targeted population, as well as getting those individuals to complete the survey once they have been contacted. And as with some of the other survey methods, some individuals may be skeptical about providing sensitive information (such as annual household income, the amount of money spent on groceries, etc.) over the Internet.

### *Dot Surveys*

Dot surveys or posters are used to focus on only a few important questions (Lev et al., 2004). The dot survey technique consists of a limited number of questions (usually no more than four) that are displayed on easels in a public location, such as a farmers' market. Participants indicate their responses by using colorful round stickers (i.e. dots) in the columns which represent their response. For example, a dot survey at a farmers' market may ask respondents to indicate their area of residence, which they would do by placing a sticker in the proper category on the poster. Dot surveys are an alternative to traditional survey techniques like written questionnaires and oral interviews, and have been found to increase response rates over alternative techniques. However, a major drawback of dot surveys is the fact that respondents can see the responses



other respondents have given, and may therefore be swayed by what they see (although there is also the argument that this tendency may mimic real-world consumer behavior, such as fads and impulse purchasing).

### *Informal Interviews and Observation*

Informal interviews and observation may be slightly less scientific in composition than the other survey methods, but may be the right tool for some agribusinesses. An informal interview consists of asking the same simple but specific questions of many individuals to get an idea of what people are thinking. Observation consists of observing consumers and taking note of their behavior. Both of these methods may be especially useful to businesses that direct market to their customers, who can be used for both interview and observation. For example, an operation that already grows organic produce, but has not been certified due to costs, could ask current customers how they feel about organic produce and whether or not they would be willing to pay more for the assurance that the produce is certified organic by a third party. In the observation sense, the operation could also find out how much the same products that are certified organic are being sold for by other operations. Another example is that of an operation that is considering producing a new crop or product. Interviews can be used to determine what products current customers would like to have access to, while observation can be used to determine which products are popular through other vendors.

### **Survey Strategies**

Focus groups or pilot surveys are frequently used by researchers to “test” a survey before it is distributed to the population of interest. This allows researchers to assess questions in advance to see if they may be confusing or worded incorrectly, or if respondents are going to find the structure of the survey too complicated. In the interest of time and money, friends, family members, employees, neighbors, etc., can act as a focus group. However, if this approach is used, it is essential that the focus group understands that their honest, unbiased opinion is necessary to determine the usefulness of the survey. It is also important to keep in mind that people who are involved with agriculture or agribusiness will have different responses than customers, as they know more about agriculture and so will have a different set of perceptions and knowledge.

The questions that end up on the market survey are just as important as the method used to distribute the surveys. While it can be tempting to try to take advantage of the opportunity to ask the survey respondents as many questions as possible, there is a point at which additional survey questions will not contribute anything additional to the survey results, as respondents experience fatigue. In light of this, it is important to keep the survey simple and as short as possible. It is also essential to avoid language that can be interpreted differently by different people, such as “generally” or “usually.”

There are a variety of ways to pose questions to survey respondents. Researchers have spent decades trying to determine the advantages and disadvantages of each question type, and have found that the best structure of a question depends on the information the surveyor wishes to obtain. Some commonly used question formats are multiple choice, rating scales, and open-ended.

### *Multiple Choice*

The multiple choice format poses a question to the survey respondents and then provides them with a list of responses to choose from. The multiple choice format can offer the respondent three or more responses, or just two: yes or no (this question format is known as *dichotomous choice*). While respondents must choose either “yes” or “no” with the dichotomous choice format, the multiple choice format can have respondents choose one or more responses. It is essential that when writing the survey (for mail and Internet surveys) or administering the survey (for telephone and in-person surveys), the surveyor include clear directions for the survey respondent as to how many responses to provide. A major benefit of multiple choice questions is that they are fairly simple to understand, while the yes/no format is so simple that research has found it to have a positive effect on the number of surveys that are returned. Downsides are that respondents do not always follow directions and may provide more than one response even when the directions indicate otherwise, and analyzing the results may be difficult for the inexperienced.

### Examples of Multiple/Dichotomous Choice

1. What is your primary motive for attending this farmers’ market? (*choose only one*)
  - Purchase produce
  - Purchase packaged goods
  - Purchase arts/crafts
  - Social interaction
  - Events/activities
  - Concerts/music
  - Purchase ready-to-eat foods (vendors)
  
2. Which of the following types of foods do you purchase? (*select as many as apply*)
  - Organic
  - Natural
  - Local
  - Pesticide-free
  - Free range/Cage-free
  - Grass-fed
  - None of these
  
3. Do you feel more inclined to purchase food products if samples are provided?
  - Yes
  - No
  
4. Is this your first time visiting this farmers’ market?
  - Yes
  - No

### Analysis of Multiple/Dichotomous Choice

To analyze the results of multiple and dichotomous choice questions, it is necessary to assign a numeric value to each question response, which can be done fairly easily using Microsoft Excel or other spreadsheet software. For example, with questions (3) and (4), the “yes” responses may be coded as “1” and the “no” responses as “2.” Once this is done, the “count” function in Excel can be used to determine the number of each of the responses, while a pie chart can be used to graphically show how many of each response was given. For the multiple choice questions, the responses are typically coded in the order they appear on the survey. For example, in question (1), “Purchase produce” would be coded as “1,” “Purchase packaged goods” would be coded as “2,” and so on.

Figure 1 shows an example of how the responses to question (1) may have turned out. In column A are the identification numbers of the ten survey respondents (Survey ID). Column B contains the survey responses to the question (Q1).

**Figure 1: Question (1) Data**

	A	B
1	Survey ID	Q1
2	1	1
3	2	2
4	3	2
5	4	1
6	5	1
7	6	1
8	7	4
9	8	6
10	9	7
11	10	1

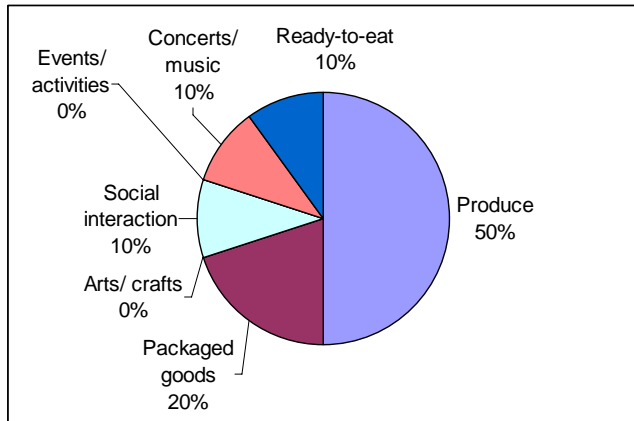
Figure 2 shows a potential next step in analysis, which would be to count the number of individuals for each response category and create a table of these responses. Under “Q1” is each response category, while “Count” lists the number of responses for each category. The “Formula” column shows the formula that was used in Excel to count the responses, based on the row and column location of the responses in Figure 1. The “Count” column shows that half of the respondents (5) came to the market for produce, while two came for packaged goods, and one each came to the market for social interaction, music, and ready-to-eat foods.

**Figure 2: Question (1) Data Analysis**

Q1	Count	Formula
Produce	5	=COUNTIF(B2:B11,1)
Packaged goods	2	=COUNTIF(B2:B11,2)
Arts/ crafts	0	=COUNTIF(B2:B11,3)
Social interaction	1	=COUNTIF(B2:B11,4)
Events/ activities	0	=COUNTIF(B2:B11,5)
Concerts/ music	1	=COUNTIF(B2:B11,6)
Ready-to-eat	1	=COUNTIF(B2:B11,7)

Figure 3 gives an example of a pie chart. Pie charts can be created in Excel fairly simply using the Chart Wizard (instructions on how to use the Chart Wizard can be found in Excel’s help menu). The data in the pie chart is the same as in Figure 2, but this different representation shows the percentage of total responses for each category. Pie charts are one way to compare response categories with one another. If a surveyor asked this question in an effort to determine whether or not to start further processing of his/her greens to create a salad mix for sale, the results are mixed. On the one hand, half of the respondents specified that they come to the farmers’ market for produce; however, 20% (2 respondents) said they come to the market for packaged goods. In this case, it may be a good idea to try a small trial of salad mix before committing to the plan.

**Figure 3: Question (1) Pie Chart**



*Rating Scales*

Rating scales allow survey respondents to indicate their level of agreement with a statement, or to rate the level of importance of a specific feature of a product or service. Benefits of rating scales are that they are relatively straightforward for respondents to understand and are less difficult to analyze than some of the other question formats. A drawback to rating scales is that they can only be used for certain types of questions.

Examples of Rating Scales

5. Please specify if your level of agreement or disagreement with each of the following statements.

Statement	Strongly Disagree				Strongly Agree
	1	2	3	4	
I am concerned about the safety of my food	1	2	3	4	5
I purchase foods that are already prepared (salad mixes, marinated meats, etc.)	1	2	3	4	5
I am concerned about the origin of my food	1	2	3	4	5
I prefer purchasing foods that have third-party certification (i.e. certified organic, certified pesticide-free)	1	2	3	4	5

6. When making purchases from a specific farmer/producer at a farmers' market, how important are the following farmer/producer features?

Farmer/Producer Features	Not important	Somewhat important	Important	Very important	Extremely important
Farmer/producer has a variety of products	1	2	3	4	5
Farmer/producer has low prices	1	2	3	4	5
Farmer/producer has organic products	1	2	3	4	5
Farmer/producer is present at market	1	2	3	4	5

### Analysis of Rating Scales

Rating scales can be fairly simple to analyze. Because the responses are already in numeric form, it is not necessary to recode them. Rating scales may be analyzed through the average response, which will show how respondents feel, on average, about the statement or question. It may also be helpful to analyze the responses by count, using either a pie chart or bar chart to show the responses relative to one another.

Figure 4 shows an example of how the statement “Farmer/producer has organic products” may have turned out for question (6). Column A shows the survey ID number, while column B lists each individual’s response to the question (where 1 is “Not important” and 5 is “Extremely important,” as on the survey).

**Figure 4: Question (6) Data**

	A	B
1	Survey ID	Q6-Organic
2	1	3
3	2	4
4	3	4
5	4	5
6	5	5
7	6	5
8	7	4
9	8	4
10	9	4
11	10	5

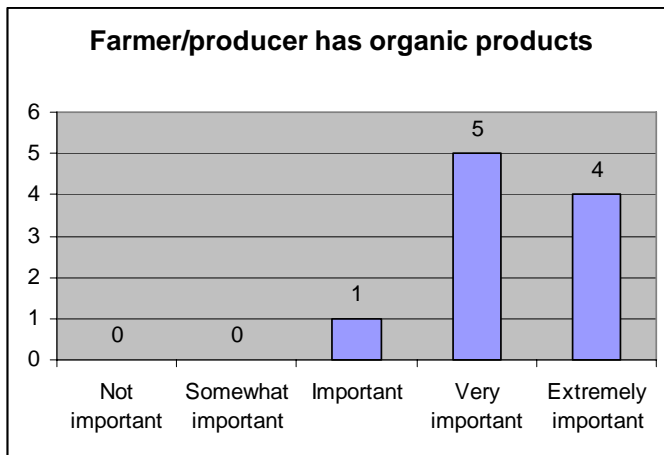
Figure 5 shows the number of responses for each category (“Count”) and the formula used to obtain each count. Also shown is the average. The average value of 4.3 shows that on average, respondents found this statement to be “Very important.”

**Figure 5: Question (6) Data Analysis**

Q6-Organic	Count	Formula
Not important	0	=COUNTIF(B2:B11,1)
Somewhat important	0	=COUNTIF(B2:B11,2)
Important	1	=COUNTIF(B2:B11,3)
Very important	5	=COUNTIF(B2:B11,4)
Extremely important	4	=COUNTIF(B2:B11,5)
Average	4.3	=AVERAGE(B2:B11)

Figure 6 shows a bar chart of responses to question (6). Like a pie chart, a bar chart is a way of comparing the number of responses between questions. As the bar chart shows, the majority of respondents found the statement “Farmer/producer has organic products” to be “Very” and “Extremely” important. If a producer asked this question in an effort to determine whether or not he or she should proceed with plans to obtain organic certification, the results of this question may indicate that such a move would be attractive to customers.

**Figure 6: Question (6) Bar Chart**



### *Open-Ended Questions*

An open-ended question poses a question to the respondent and asks him/her to write out his/her response. While open-ended questions can provide a lot of information, they are problematic enough that many researchers try to avoid them. To begin with, they require more effort on the part of the respondent, and so may lead the respondent to skip the question or quit the survey entirely. The open-ended nature also leaves the interpretation of the question up to the respondent, so the responses may not be entirely what the surveyor was looking for. Finally, because there are virtually infinite ways to answer an open-ended question, they can be a bit difficult to analyze, unless respondents tend to answer the question similarly. However, open-ended questions can be useful in focus groups. If a researcher poses an open-ended question to a focus group, the responses given can then be used to reformat the question into multiple choice.

### Example of Open-Ended Questions

7. When making purchases from a specific farmer/producer at a farmers’ market, what farmer/producer features do you find most appealing?

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8. What is your primary motive in attending this farmers’ market?

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## Analysis of Open-Ended Questions

One of the difficulties in using open-ended questioning is analyzing the results. If the surveyor is not planning on administering the survey to a large number of people and is looking for very general information, then open-ended questions can be helpful in a sort of “comment card” sense. However, if the survey is being given to a large number of people and the surveyor wishes to achieve specific responses, open-ended questions may not be the best format. If many open-ended questions need to be analyzed, though, it can be done. In this case, it may be necessary to go through the responses looking for common “themes” in the responses. For example, in question (7), respondents may offer many of the same responses, such as “price,” “quality,” and “reputation.” The person analyzing the data may wish to code all responses pertaining to “price” as “1,” “quality” as “2,” and so on. Once the data has been coded numerically, it can then be analyzed using pie and bar charts to show how the responses stack up against one another.

## **Summary**

The purpose of this fact sheet is to provide a basic overview of survey methods and primary data analysis in market research. While it is a good idea to check to see if there is relevant secondary data available to avoid unnecessary primary data collection costs, the benefits of primary data are specific answers to specific market research questions. Surveys, of which there are many different types, are one of the most popular methods of collecting primary data. The type of survey used and the question formats on the survey should take into consideration the type of information the surveyor is looking to collect, the population of interest, and the skills of the surveyor or survey team.

## **Additional Resources**

The USDA-ERS (Economic Research Service) collects data on sales and consumption of food and agricultural products in the U.S., including consumer survey data. ERS data can be found online at [www.ers.usda.gov/Data](http://www.ers.usda.gov/Data).

The USDA-AMS (Agricultural Marketing Service) provides data and publications on marketing agricultural products and focuses on direct outlets. AMS data and publications can be found online at [www.ams.usda.gov](http://www.ams.usda.gov).

Survey Monkey provides a survey internet hosting service at a low cost. Visit [www.surveymonkey.com/](http://www.surveymonkey.com/) online for more information.

Marketing research companies and economic consulting firms can be hired to conduct primary data collection and analysis. RTI international is just one example. Information on RTI can be found at [www.rti.org](http://www.rti.org).

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## Estimating Market Potential Using Published Data: A Trade Area Analysis Example

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### Overview

As small agricultural businesses do not often have the resources to conduct market research using primary data, secondary data, (data that has been previously published on the local, regional, or national economy), can be used to help business owners in their decision making. In particular, economic analysis can identify voids in the local or regional market that can possibly be filled by expanding business or implementing new products. Trade area analysis, including pull factor and trade capture, can be very useful in identifying particular businesses, or products for which there may be significant local demand. These businesses are primarily covered by the commercial sector which are local groceries, apparel, general merchandise, restaurants, accountants, and other retail and service businesses. The following fact sheet provides an overview of trade area analysis, sources of such data for such analysis, and additional business and/or product development strategies.

### Trade Area Analysis

Several studies have been completed which determine commercial sector activity in rural areas. For this fact sheet, the trade area analysis procedures developed by Stone and McConnon (1984) and Pulver (1984), and modified by Harris et al. (1990) is discussed. For trade area analysis, two measures are used: trade area capture and pull factor. The trade area analysis procedures have been extended by estimating commercial sector opportunity on a square foot basis (Center for Community and Economic Development, 2001).

#### *Trade Area Capture*

Sales retention is an area of economic development strategy that attempts to capture potential local retail sales. One approach to estimating retail sales potential is to estimate the number of people buying from local merchants (Hustedde et al., 1984; Stone and McConnon, 1984; Harris, 1985; Darling and Tayyem, 1991; Woods, 1991; Shaffer, Deller, and Marcouiller, 2004). Trade area analysis uses trade area capture and pull factors to measure the extent the local commercial sector is capturing local and non-local commercial sector demands.

Trade area capture is a surrogate estimate for the number of customers, or customer equivalents, who purchase a specific type of merchandise in a given region. Trade area capture is determined by dividing the county's actual commercial sector sales by the state's per capita expenditures, adjusted by the relative per capita income between county and state. Trade area capture ( $TAC_{ij}$ ) is estimated below as:

$$TAC_{ij} = \frac{AS_{ij}}{(AS_{sj} / P_s) \cdot (Y_c / Y_s)} \quad (1)$$

where:



$TAC_{ij}$  represents trade area capture for retail sector  $j$  in county  $i$  measured by customer equivalents,

$AS_{ij}$  represents annual taxable retail sales in sector  $j$  in county  $i$ ,

$AS_{sj}$  represents annual taxable retail sales in sector  $j$  for the state,

$P_s$  is the state population,

$Y_c$  is county per capita income, and

$Y_s$  is state per capita income.

Most trade area models assume that a community's market area is solely a function of population and distance. Trade area capture explicitly incorporates income and expenditure factors, which also affects the community's trade area. State and county population and income data can be obtained from the Regional Economic Information System (U.S. Department of Commerce, 2007) and annual taxable sales data by economic sector are available from state sources if the state imposes a sales tax such as the state of Nevada (State of Nevada Department of Taxation, 2005).

### Interpretation of Trade Area Capture

If trade area capture exceeds population for a given county, either the county is capturing outside trade or local residents have higher spending patterns than the state average. If trade area capture is less than county population, either the county is losing potential trade or local residents have lower spending patterns than the state average. Comparison of trade area capture estimates between specific commercial sectors and county population can provide insights into which commercial sectors are attracting or losing customers in that county. If possible, estimating trade area capture through time can provide information as to the dynamic change occurring in a local commercial sector. Completing a trade area capture analysis through time is a way to detect important information about trends within a commercial sector.

### *Pull Factor*

Trade area capture measures purchases by both residents and nonresidents. The pull factor is the ratio of county trade area capture to county population, which creates a measure of the county's drawing power. Pull factor makes explicit the proportion of consumers that a county draws from outside its boundaries. Over time, the pull factor ratio removes the influence of changes in county population when determining changes in drawing power. For economic development, a pull factor analysis can help identify selected retail sectors that may be targeted for retail sector development. Most often a pull factor below 1.0 indicates a retail sector opportunity. However, this assumes that the low pull factor is due to local residents shopping outside the county, which is not always true. Analogously, if a pull factor is above 1.0, it may suggest that the county is drawing in residents from neighboring counties to shop. Pull factor is calculated as:

$$PF_{ij} = \frac{TAC_{ij}}{POP_i} \quad (2)$$

where:

$PF_{ij}$  is the pull factor value for commercial sector  $j$  in county  $i$ ,

$TAC_{ij}$  is the trade area capture value for commercial sector  $j$  in county  $i$ ,

$POP_i$  is population in county  $i$ .



### Trade Area Capture by Square Footage

Sometimes valuable information about trade area potential can be derived from using trade area capture, potential sales, and pull factor estimates to calculate trade potential by square footage. Employing the trade area capture formula, commercial sector potential sales for a given commercial sector in a selected county can be presented as:

$$PS_{ij} = P_i \cdot SSPC_j \cdot \frac{PCI_i}{PCI_s} \quad (3)$$

where:

$PS_{ij}$  is potential sales for commercial sector  $j$  in county  $i$ ,

$P_i$  is population for county  $i$ ,

$SSPC_j$  is state sales per capita for commercial sector  $j$ ,

$PCI_i$  is per capita income for county  $i$ , and

$PCI_s$  is per capita income for state  $s$ .

Comparing estimates of potential sales for commercial sector  $j$  in county  $i$  to realized sales of commercial sector  $j$  in county  $i$ , one could derive a value of captured or lost commercial sales for that sector and county. However, comparing potential and realized commercial sector  $j$  sales for county  $i$  might not be too meaningful to the local public. An alternative approach would be to convert potential commercial sales into demand for commercial sector square footage. Comparing potential and available commercial sector square footage provides local economic development practitioners information to formulate local commercial sector development targets.

### Trade Area Analysis Example: Mineral County, Nevada

Using information from Table 1 and Equation 1, Trade Area Capture for the General Merchandise Sector in Mineral County is derived below:

$$TAC = \frac{\$1,011,060}{\frac{\$3,799,963,834}{2,412,301} \cdot \frac{\$26,363}{\$35,744}} \quad (4)$$

$$TAC = 870 \quad (5)$$

In 2005, Mineral County's trade area capture for general merchandise was estimated to be 870 customer equivalents (i.e. a surrogate for the number of customers that includes nonlocal customers such as tourists and residents of neighboring counties). Since the trade area capture estimate is less than the county population of 4,896, it may be concluded that Mineral County is not capturing the general merchandising purchases of its county residents. This implies that on balance, general merchandising stores in Mineral County are not capturing local customers to the extent possible.

The trade area capture value is an absolute value that many researchers find difficult to use in developing a local commercial sector targeted program. It is difficult to compare trade area capture estimates between counties of different size, and to assess trends over time. For these reasons, the pull factor is used.

**Table 1: Required Data for Estimation of General Merchandise Sector Trade Area Analysis for Mineral County, Nevada, 2005**

Mineral County Population	4,896
State of Nevada Population	2,412,301
Mineral County per Capita Income	\$26,363
State of Nevada per Capita Income	\$35,744
Mineral County Sales for General Merchandise	\$1,011,060
State of Nevada Sales for General Merchandise	\$3,799,963,834
Urban Land Institute Sales per Square Foot for General Merchandise Sector	\$176.18

Source: U.S. Department of Commerce, State of Nevada Department of Taxation, and the Urban Land Institute

Using Table 1 and Equation 2, the pull factor for the General Merchandising Sector in Mineral County is derived as:

$$PF = \frac{870}{4,896} \quad (6)$$

$$PF = 0.1777 \quad (7)$$

Mineral County's 2005 pull factor for the General Merchandising Sector was 0.1777. With a pull factor less than 1.0, this means Mineral County's General Merchandising Sector is losing local sales. The low pull factor signifies that there is opportunity for potential general merchandising sector development, but again, also indicates that difficulty exists in developing a target commercial sector program.

Using procedures outlined by Center for Community and Economic Development at the University of Wisconsin (2001), Equation 3 and data from Table 1, potential sales for the General Merchandising Sector in Mineral County is shown below as:

$$PS = (4,896) \cdot \left( \frac{\$3,799,963,834}{2,412,301} \right) \cdot \frac{\$26,363}{\$35,744} \quad (8)$$

$$PS = \$5,688,281 \quad (9)$$

Using the potential sales value from Equation 9 and sales per square foot for General Merchandising Sector from Table 1 (a value of \$176.18), the total demand for square foot space for the General Merchandising Sector in Mineral County becomes:

$$PSQFT = \frac{\$5,688,281}{\$176.18} \quad (10)$$

$$PSQFT = 32,287 \text{ sq. feet} \quad (11)$$

Therefore, Mineral County's total demand of commercial square footage for the General Merchandising Sector is 32,287 square feet. Local economic development practitioners using county-level assessor and/or Geographic Information System data can estimate the general merchandising sector square footage already in use along with square footage currently available to determine if enough space is available to target this commercial sector for development. Also, this analysis may show if a shortage of commercial space or square footage will create a hindrance in targeting this commercial sector for future economic development. If square

footage is available, this information could provide impetus for targeting the General Merchandising Sector for economic development in Mineral County.

## **Business Development/Assistance Strategies**

### *Anchor Business Strategy*

Often a single good or service is the initial lure that attracts customers. All community businesses benefit from this key good or service. In shopping centers, that key merchant is referred to as the shopping center “anchor.” When a county examines its retail trade sector, there are three types of businesses to consider (Kivell and Shaw, 1980). The first type is the generative business that produces sales by itself or attracts customers to the county, such as the shopping center anchor. The second type of business to consider when examining a retail trade sector is the shared business that secures sales from the generative power of nearby businesses; an example is a small specialty store located near a large merchandise store. The third type of business to consider is the business whose sales are a coincidental occurrence to other activities. Such businesses do not generate sales themselves, nor from association with nearby shops. Examples are small ice cream shops, t-shirt shops and cafes in a shopping mall. For an area to realize its retail trade potential, a balance among the different categories of retail shops must be struck.

### *Management Assistance Programs*

Many local businesses are owner-operated, earn low profits and have difficulty obtaining financing. For example, a business may need help in preparing a business plan to qualify for financing to start or expand its operation. Business owners often need additional education and training in improving business management skills such as accounting, finance, planning, marketing, customer relations, merchandising, personnel management, and tax procedures. Additional education and training assistance can be provided through seminars and one-on-one aid. Sources of assistance include the Small Business Development Center Program (sponsored by the Small Business Administration), vocational technical centers, Service Corps of Retired Executives (SCORE) and the Cooperative Extension Service. The intent of these programs is to aid small businesses in becoming more competitive.

### *Incubator Programs*

Establishing a business incubator is another way to assist new businesses. An incubator is a building with shared space or service requirements that help to reduce start-up costs for new businesses. Incubators have been successful in many locations, but are not right for every town. A successful incubator must have long-range planning, specific goals, and good management in order to identify markets and entrepreneurs. A successful incubator must have long-range planning, specific goals, and good management in order to identify markets and entrepreneurs (Allen and Daugherty, 1987; Weinberg, 1987; Barse, 1993, Rushing and Woods, 1995; Woods and Rushing, 1995).

### *Other Assistance Strategies*

Small businesses often have difficulty obtaining long-term bank financing for expansion because they lack asset to mortgage, cannot obtain affordable terms or rates, and/or cannot present a strong business plan. A business development program can identify public loan



programs (such as Industrial Development Bonds) and package them with private loans to make projects feasible, as well as provide assistance in undertaking joint projects for the business district. Joint business development projects may include:

- Improving street appearance
- Improving management of a commercial area
- Building renovation
- Preparation of design standards
- Joint promotions and marketing
- Organizing independent merchants
- Special activities and events
- Fund raising
- Improving customer relations
- Uniform hours of operation

Undertaking these projects requires cooperation, organization, and efficient management. These projects can improve a business district's competitive position and attract new customers. The Main Street Program provides many good examples of towns working for economic revitalization. The Main Street Program, developed by the National Trust for Historic Preservation, is built around four points: organization, design, promotion, and economic restructuring (National Trust for Historic Preservation, 1996).

## Conclusions

Small agricultural businesses often do not have the time or resources available to conduct costly primary research in their area. The analysis of secondary data collected by another source can be beneficial to these small businesses by providing additional information about markets and consumers. Trade area analysis is an example of how businesses can use existing data to learn more about how their business power can be strengthened, by providing information about the number of customers in their county, their sector's pull factor in the region, and potential sales in their area. This information can all be used to create a plan or strategy for agribusiness owners.

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# A Preliminary Comparison of Organic, Grafted, and Conventional Cantaloupe Production under Subsurface Drip Irrigation

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## Introduction

Identifying a specialty or niche production process that a firm can conduct better than the competition (creating a competitive edge) is a potentially profitable niche marketing strategy. An example of this is melon producers who become successful early adopters of grafting and producing organic melons superior to those of the competition in terms of quality and cost of production. Production opportunities may also exist through crop rotations, virgin soils, or production zones that are isolated from other areas. Because insects and diseases are not confined within property boundaries, seeking a favorable production niche is central to identifying a favorable niche market.

Subsurface Drip Irrigation (SDI) provides unparalleled irrigation efficiency, but the initial capital investment for installing SDI is relatively high. Crop rotations are also somewhat limited with SDI, due to the need for specialized equipment and a high value crop to justify the expense of SDI. However, SDI provides some distinct production and harvest advantages for some “high value” crops, including melons (Boyhan, Kelley, and Granberry, 1999). For example, “first fruit” melons can be harvested while irrigation is occurring through the drip lines to nourish the quality and increase the quantity of melons that will be ready for harvest later in the season. SDI also allows for chemicals to be applied directly to the soil through the drip line, minimizing the loss of volatile chemicals, such as chloropicrin, to the atmosphere.

Conventional cantaloupe production in the West under SDI has traditionally utilized soil fumigation to control soil-borne pests, fungal diseases, and certain weeds. A particularly injurious combination is *Meloidogyne incognita*, and root rot and vine decline caused by several fungi including *Monosporascus cannonballus* and *Macrophomina phaseolina*. These fungal diseases constitute a serious threat to continued cultivation of melons in the desert production regions of southern California and Arizona. Fungicides registered for use on cantaloupe for these diseases are expensive and do not always give adequate protection, especially in highly infested fields. Preplant fumigation with 1,3-dichloropropene is effective for management of root-knot nematodes, but is not active against fungi. Preplant fumigation of pathogen-infested

fields with methyl bromide has proven efficacious for disease control, however, as methyl bromide depletes the stratospheric ozone layer, its use is being phased out and critical use exemptions are required to use it as agreed to by the Montreal Protocol and the Clean Air Act (U.S. Environmental Protection Agency, 2006). The use of methyl bromide must be discontinued in the U.S. by 2008, and worldwide by 2015. Thus, alternative disease management strategies are needed.

One tool under exploration is grafting. Melons grafted to root stocks of certain squash and other cucurbits may be more resistant to fungal diseases and soil-borne pests. As grafting does not require the use of synthetic pesticides, the technology can be used to grow melons organically. Grafting of young vegetable seedlings has been utilized in Asia for many years, but it wasn't until the development of "tube grafting" in the early 1990s (Itagi, Nakanishi, and Nagashima, 1990) that the speed and success of grafting was suitable for adoption by commercial propagators. In addition, the use of semi-robot and robotic equipment makes grafting vegetables on a large scale for commercial production more feasible than it was prior to this technology (Kurata, 1994). Figure 1 shows a flat of grafted melons, with plastic clips at the graft joint, ready for transplanting to the field.

### Melon Field Trials

To evaluate the viability of grafting technology for cantaloupes, field experiments were conducted in the fall of 2007 in Arizona for both organic and conventional practices using 1) direct seeding of Olympic Gold, 2) Olympic Gold grafted on Tetsukabuto, 3) Acclaim grafted on StrongTosa (interspecific hybrid squash), and 4) transplants of non-grafted Olympic Gold. The planting for the direct seeded Olympic Gold occurred on July 16. Transplant dates followed direct seeding by a few days with grafted Olympic Gold on July 20, grafted Acclaim on July 28, and non-grafted Olympic Gold on July 26. Ideally, all trials would be planted on the same day, however, difficulties with shipment orders as scheduled did not allow for plantings of all trials to occur on the same date. Four replications of each trial were completed.

**Figure 1: Grafted Melons**



**Figure 2: Manual Planting of Transplants**



Transplants were primarily placed in the ground by hand, as shown in Figure 2, because limited success occurred with a machine adapted to aid with transplanting. A plastic cover was placed on the top of each bed over the subsurface drip line, which is buried 23 centimeters below the surface. The plastic serves multiple purposes in the production system: it helps retain volatile chemicals in the soil that are applied through the drip system, provides weed control, and retains moisture in the planting bed for seedlings. The plastic is sprayed with a white wash for fall melons so that the soil beneath the plastic would stay cooler than the bare ground, while black plastic is used in the spring to retain the heat and warm the soil. A hole is burned into the plastic by the planting machine for direct seeded melons.

As transplanting requires much more labor than direct seeding, it was noted that organic production was only feasible for this operation due to the ability to move all of their labor from the conventional side of the farm to focus on the smaller number of organic acres. Having a large labor pool available to address production issues that would arise with organic production, whether transplanting, weed control, or pest control actions, was important for the organic side of the operation. Thus, some complimentary aspects of the labor supply were found to exist from producing both conventional and organic melons at the same time.

Even if yields are not adversely impacted from root knot nematode *Meloidogyne incognita*, fruit quality may suffer in the form of lower sugar levels or brix percentages. Figure 3 illustrates how root-knot nematode and weed control can be an issue in organic fields. Weeds and nematodes are generally not as much of an issue using virgin land or coming off certain crop rotations, however, many rotational crops that may be good for control of weeds and nematodes may not be very marketable or fit into the production system. For example, alfalfa could serve as a rotation crop with melons (most alfalfa grown in Arizona is resistant to *M. incognita*), but is a relatively bulky commodity that cannot be shipped too far and still be cost competitive. Additionally, alfalfa is not readily adaptable to growing on beds with SDI.

**Figure 3: Grass, Weed, and Root-Knot Nematode Issues in Areas of the Organic Field**





Cantaloupes were harvested from 33-foot length samples on each melon bed and the harvest period extended from September 22 to October 5. Because the size of melons harvested ranged from size 6 to 18, yields were normalized on a size 12 using the relative wholesale prices for the San Joaquin Valley, Arizona, and Chicago markets during the harvest period. For example, the price of size 6 melons was 4% higher per half carton or crate than size 12 melons over this period, so the production of size 6 melons was weighted 4% more than size 12 melons. Size 18 melons received 83% of the price of size 12 melons for this harvest period. Thus, size 18 melons harvested were multiplied by .83 to equal the same yield as one crate of size 12 melons. The distribution of melons harvested by size is provided in Table 1. Size 12 was selected for a base since it is essentially the middle size and it was often the most common size harvested.

**Table 1: Size Distribution for Four Trials of Conventional and Organic Cantaloupes**

Production Method & Variety	Size 6	Size 9J	Size 9	Size 12	Size 15	Size 18	Decay
<b>Conventional</b>							
Direct seeded Olympic Gold (baseline)	0.0%	6.4%	32.7%	22.2%	16.1%	17.8%	4.8%
Olympic Gold grafted on Tetsukabuto	0.2%	13.6%	31.3%	19.6%	13.8%	18.2%	3.2%
Acclaim grafted on StrongTosa	0.0%	5.0%	26.4%	21.9%	24.3%	20.6%	1.8%
Non-grafted transplants of Olympic Gold	0.0%	2.2%	12.4%	20.3%	23.5%	41.6%	0.0%
<b>Organic</b>							
Direct seeded Olympic Gold	0.0%	12.9%	30.2%	21.9%	14.2%	15.1%	5.6%
Olympic Gold grafted on Tetsukabuto	0.3%	9.3%	28.0%	23.7%	16.3%	15.2%	7.2%
Acclaim grafted on StrongTosa	0.0%	11.9%	35.9%	21.8%	13.9%	8.8%	7.7%
Non-grafted transplants of Olympic Gold	0.0%	2.7%	22.8%	30.8%	19.7%	21.1%	2.9%

### Economic Results of Field Trials

Table 2 provides a summary of the yield, cost, and break-even price required relative to the baseline of “direct seeded Olympic Gold.” Relative values are provided so that comparisons can be made across production methods while keeping the competitive cost level of the cooperating entity confidential. Direct seeded Olympic Gold grown conventionally did not have the highest yielding trial, but this combination did have the lowest production cost and subsequent break-even price. Grafted plants yielded reasonably well compared to direct seeding. Organic production of Olympic Gold grafted on Tetsukabuto had the highest yield, but it also had the highest production cost. Thus, the price needed to cover variable production costs for the grafted conventional and organic Olympic Gold are 4.6 and 3.3 times higher than that required for the baseline of the conventional direct seeded Olympic Gold. Grafted Acclaim cantaloupes had essentially the same production costs as the grafted Olympic Gold, but because the yields were somewhat lower for the Acclaim, the break-even price needed to cover variable production costs for the conventional and organic Acclaim is 5.1 and 4.7 times higher than baseline of the direct seeded Olympic Gold. Because the Acclaim trials were planted 8 days after the grafted Olympic Gold transplants, variations in weather conditions do not make the comparisons equal and results should be treated as preliminary. The non-grafted Olympic Gold and grafted Acclaim transplants were planted only 2 days apart, and their yields are quite similar for both organic and conventional trials. Because their yields are lower than the direct seeded and grafted Olympic Gold, this suggests that weather, insect, and other conditions may not have been as favorable for the later plantings. A new plant virus, Cucurbit Yellow Stunting Disorder Virus (CYSDV), was recently found and identified in Arizona fields in 2006 and 2007 (McGinley and Brown, 2007) and was found in the melon trials. No chemical or biological control currently exists for the

virus, which whiteflies can transfer while feeding on different plants. Direct seeded Olympic Gold grown organically has only a 10% higher break-even price than under conventional methods, however, whether these organic melons can continue to be grown in the future with the relatively modest cost increase of 10% to cover variable costs is in question. Populations of the root knot nematode *Meloidogyne incognita* will increase with another direct seeded melon crop so that grafting or another method of nematode control will be required to control this pest. With grafted transplants costing \$0.60 per plant versus \$0.06 per plant for non-grafted, grafting costs were \$3,024 per acre more than transplanting non-grafted plants. An in-row spacing of 14 inches was utilized for all transplants, resulting in a plant population of 5,600 plants per acre. In comparing grafted versus non-grafted transplants for Olympic Gold, the cost of grafting would need to fall below \$0.25 and \$0.09 per plant for the organic and conventional production methods to be cost effective under the trials conducted.

**Table 2: Relative Yield, Cost of Production, and Break-Even Price of Trials.**

Production Method & Variety	Relative Yield	Relative Production Cost	Relative Break-Even Price
<b>Conventional</b>			
Direct seeded Olympic Gold (baseline)	100%	100%	100%
Olympic Gold grafted on Tetsukabuto	85.4%	332.9%	390.1%
Acclaim grafted on StrongTosa	76.3%	332.9%	436.2%
Non-grafted transplants of Olympic Gold	79.6%	167.1%	210.0%
<b>Organic</b>			
Direct seeded Olympic Gold	105.8%	116.4%	110.1%
Olympic Gold grafted on Tetsukabuto	124.6%	349.4%	280.3%
Acclaim grafted on StrongTosa	86.3%	349.4%	404.8%
Non-grafted transplants of Olympic Gold	89.0%	183.5%	206.3%

## Conclusions

Identifying a successful niche market is very much linked to identifying a production niche for the organization described here. Quality standards in size, firmness, and brix must always be met and monitored for both conventional and organic methods. Anticipating price premiums for organic versus conventional melons during different production windows is a key factor in determining whether organic production should be pursued. Organic acreage is generally small relative to conventional acreage for this operation, and this has allowed them to shift almost all their labor to the organic fields when organic production challenges arise (e.g. seeding transplants by hand, hand weeding, pest control, etc.).

This operation either forward contracts or locks in a price on around 60% of their expected production. Prices are generally set on a slide so that if market prices drop during harvest they don't absorb the full decline, and conversely, don't receive the full benefit if prices increase. Although this operation has received some nice premiums for organic melons in the past, they have also sold many organic melons at conventional prices in order to move sufficient volume when the fruit is ripe.

A key production concern regarding organics for this operation is the ability for insect pests and diseases to quickly spread from small acres of organics to a large investment in nearby commercial melon acreage. That is, the predominant acreage of conventional melons on this operation could be put in jeopardy from a relatively small amount of organic acreage, because

insect pests like whitefly will readily move from organic to conventional fields. The ability of whiteflies to spread a virus like CYSDV shows how organic fields, which have very limited effective control options for whiteflies, can adversely impact conventional production.

A natural geography barrier that separates insect pests from organic and conventional fields, but that does not require great distances to move labor and equipment, seems to play a key role in creating a production-market niche for organic melons. While crop rotations are being utilized, a complimentary rotation crop has not been found. Current rotation crops are planted to enhance the subsequent production of higher-valued vegetable crops. While grafting technology shows promise for allowing more high-valued vegetables to be planted year after year, the cost of grafted plants needs to come down in order to be competitive with non-grafted technologies under the field conditions tested. Market niches are continually changing with production niches and experimenting with new production methods is an important component of their viability in the marketplace.

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## **Lasater Grasslands Beef: A Case Study on Natural & Sustainable Meats**

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### **Overview**

The Lasater Ranch has a rich history in the cattle business, going back to 1882, when it was established in South Texas. Lasater Ranch is responsible for the development of the Beefmaster cattle breed, which was developed by Tom Lasater, and was the second cattle breed recognized as originating from the United States (the first recognized breed being Santa Gertrudis). Tom developed this breed as part of a ranch program focused on raising cattle in harmony with nature. Tom is quoted as saying “Nature does all of the thinking and most of the work.” As the ranch progressed, Tom decided to expand, but South Texas was experiencing an energy boom in the late 1940’s and land values were high. Because of this, the cattle herd was moved to the short grass prairie country of Matheson, Colorado.

Lasater Ranch is currently managed by Dale Lasater, one of Tom Lasater’s sons. Dale took over management of the ranch in 1985, and has continued to embrace the program and the cattle that his father developed. Dale’s commitment to keeping the ranch in harmony with nature is as strong as ever. As Dale puts it:

For more than half a century the Lasater Ranch has been a wildlife sanctuary. There is no poisoning, hunting, or trapping on the ranch. Like the bison, our cattle co-exist with coyotes, deer, prairie dogs, pronghorn antelope, rattlesnakes, and other wildlife. Believing that working with nature is the best policy, many years ago we implemented practices that helped restore the natural balance between animal species, domestic livestock, land and man.

### **The Cattle**

The Beefmaster breed of cattle is a composite of Hereford, Shorthorn and Brahman. The approximate mix is 50% Brahman, 25% Hereford and 25% Shorthorn. Lasater’s herd has been closed since 1937, meaning only Beefmaster bulls produced by Lasater Ranch are used in breeding future generations. From the beginning, Tom Lasater believed in utilizing multi-sire pastures for breeding purposes, as this fit better with the success of wild animals in nature. For many years the sires of the calves were unknown under this management system. However, in the mid-1990s, the ranch began using DNA paternity tests to identify the sire of each calf produced, allowing them to put more selection pressure on the bulls, as well as to sell bulls with known sires.

Tom established six criteria by which all breeding cattle are selected, including disposition, fertility, weight, conformation, milk production, and hardiness. At the Lasater ranch, breeding takes more than just pedigree and good looks; all breeding cattle are put to the test of the six selection essentials. Adherence to this strict set of standards leads to 15-20% of the herd being culled each year. To compensate for this, the ranch retains 85% of the heifer calves. This is just





another example of how the ranch works with nature and not against it. “We’re not going to decide which ones (heifers) are the best ones, we’re going to let nature tell us which ones are the best ones,” says Andy Duffy, a ranch manager for Dale on Lasater Ranch.

Each year the elite calves are utilized in the breeding program. Additionally, Lasater sells around 100 two-year-old bulls each year. All other calves, approximately 200 per year, are placed into the Lasater Grasslands Beef program.

### **Grasslands Beef**

As with the other facets of Lasater Ranch, the Grasslands Beef cattle are managed in harmony with nature. All calves are raised without antibiotics, pesticides, hormones, growth implants, animal by-products, or steroids. Additionally, calves are never confined in a feedlot environment. Calves are fed hay during periods of heavy snow, but the ranch only plans on feeding hay about two weeks out of the year.

Lasater ranch utilizes rotational grazing management practices with their Grasslands cattle. According to Dale, “Our cattle—like the roaming herds of bison once did—harvest grasses, till the soil with their hooves, fertilize the ground (via that most natural of processes) and then are moved to fresh pastures, leaving the grazed plants to fully recover. When the pastures are rested (typically 70 to 80 days), the grasses develop to their full potential—growing extensive root systems that help them survive drought.”

The calves in the Grasslands Beef program are harvested at roughly 24 months of age by family-owned, USDA-inspected packing plants. To help assure a high quality, tender product, all beef is dry aged in a controlled environment for 14 to 21 days.

### **Marketing Strategies**

Lasater Grasslands Beef is marketed utilizing three different avenues: direct sales, Internet sales, and retail sales. This multi-pronged approach has helped to broaden the customer base and create a steady demand for the product.

The ranch has been selling Grasslands Beef directly to customers for over 10 years. Direct sales customers are mostly from the surrounding area, but word of mouth has traveled far and today their direct sales customers are spread out all over the United States.

Lasater Ranch’s website, [www.grasslandsbeef.com](http://www.grasslandsbeef.com), allows customers to order beef and have it shipped anywhere in the United States. The beef is shipped frozen, on dry ice, using two-day air mail. The website also allows the Lasater Ranch to share their history and philosophy with potential customers. The website focuses on the Lasater heritage, their commitment to nature, the high quality eating experience of their beef, and the health benefits of eating Grasslands Beef. Below are a few examples of the products currently available online (all prices as of early 2008):

- The Family Sampler (\$175.00): The Family Sampler includes 36 lbs of assorted cuts wrapped in white butcher paper, including roughly 8 lbs of steaks, 12 lbs of assorted roasts and other cuts, and 16 1-lb packages of ground beef.
- Assorted Steaks (\$132.00): This order comes with 4 Ribeye Steaks, 10-12 oz each; 4 New York Strip Steaks, 10-12 oz each; and 4 Top Sirloin Steaks, 10-12 oz each.
- Filet Mignon (\$70.00): The Filet Mignon package includes 4 individual steaks, butterfly cut, at 8-10 oz. each.



- Ground Beef (\$25.00): The Ground Beef order includes 5 1-lb packages of 90% lean ground beef. This is one of Lasater Ranch's most popular items.

The third approach to marketing that the Lasaters utilize is supplying beef direct to retail establishments. Grasslands Beef is available in over fifteen different "natural food" grocery stores in the Denver and Colorado Springs, Colorado areas. The product offerings at these stores are similar to the products available online.

One of the biggest challenges for niche market producers is distributing the whole carcass. Direct and retail customers often demand only specific products from the carcass such as roasts, steaks and ground beef. In 2008 Lasater Grasslands Beef was able to come to an arrangement with a local Whole Foods Market store in Colorado Springs for delivery of one fresh carcass per week. This agreement allowed for the potential to grow the number of carcasses delivered per week depending on the demand. Lasater Grasslands Beef sees arrangements like this one as the future of their business. In fact, in Andy Duffy's opinion, "Given the changes in our environment, with demand for corn increasing due to ethanol production, and fuel prices escalating, the future for many cattle producers is supplying local markets with fresh grass-fed beef."

## **Conclusion**

Lasater Ranch has found success in niche meat marketing due in part to using a variety of niche marketing strategies outlined in this publication. Perhaps the most important of these strategies is Lasater Ranch's diversified product offering: not only is Lasater Grasslands Beef natural and grass-fed, the beef is harvested from livestock that has gone through a rigorous screening process, including DNA testing, to ensure that the integrity of the meat, the livestock, and the ranch adhere to their own strict standards. Maintaining such strict standards has the additional effect of linking the product (brand) name with quality and consistency. This branding strategy is further impacted by the information the ranch shares on its website. In addition to explaining their philosophy and the benefits of natural, grass-fed meat, the website introduces the members of Lasater Ranch and explains its history (the "farm/ranch story"). Lasater Ranch's marketing strategy is also diversified, as the ranch sells its product directly to customers, in retail stores, and through the Internet. This approach allows the ranch to reach customers outside of their immediate region, while also mitigating the risks associated with reliance on a single customer base.

## **Hidden Valley Organic Dairy Farms: A Case Study on Organic Dairying**

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### **Overview**

Hidden Valley Dairy Farms owner Perry Van Tassell came to organic farming through a different set of circumstances than most organic farmers. Van Tassell's parents moved from Utah to the farm's present location in Idaho in 1975. Initially the 1,800-acre farm was a typical diversified operation that raised hay, grain, corn and row crops such as potatoes, as well as 500 acres of sugar beets. Additionally, a small dairy operation was always part of the farm. Hidden Valley Farms is located in south Lincoln County, well away from most other farms and bordered by public lands managed by the Bureau of Land Management (BLM).

In 2000, Hidden Valley Farms experienced an event that would forever change the way the farm operated. In the fall of that year the BLM, in an effort to control noxious weeds, used a chemical spray called OUST®\* to treat their public lands. OUST® is used to control several types of grasses, broadleaf weeds and certain hardwoods and vines in non-crop sites. Spray drifted onto a number of southern Idaho farms that bordered the BLM land, including Hidden Valley Farms, and the contamination had long-term effects. One such impact was that Hidden Valley Farms could no longer raise row crops, leaving them with hay, grains, corn and the 230 cow dairy. By 2003, Van Tassell had made the decision to move to organic production to capture the higher prices consumers were willing to pay for organics, in addition to his desire to phase out chemicals altogether. The farm and dairy were certified organic in 2006, and have since increased in size to 2,200 acres on the farm side and 350 cows on the dairy side.

### **Strengths of the Business**

A major strength of Hidden Valley is the self sufficiency of the farm. More than enough feed is raised on-farm to support the dairy, while the remainder is sold into the organic market. Approximately 70% of the farm's hay crop is utilized on-farm, and the rest of the crop is sold both locally and to more distant markets, including Texas and Colorado. Similarly, about 85% of the barley crop is used in the dairy and the rest is marketed. Being almost completely surrounded by BLM, Perry also doesn't have to be concerned with chemical drift from conventional farming neighbors.

### **Threats to the Business**

In Idaho, like many other states in the arid West, access to water is a necessity for agriculture. Hidden Valley relies on ground water, sourced from deep wells drilled in the 1970s. Due to a multi-year drought, water shortages have raised a dispute between surface water users and ground water users. With Idaho's water law based on "first in time, first in right," users with

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\* OUST® is a product of DuPont Corporation.



later (more recent) water rights, which are mainly ground water users, may face curtailment or a total loss of their water. The situation has been going through a public hearing and court decision process for several years with no resolution in sight and it is possible that Hidden Valley's wells could be part of a curtailment order in the future.

A second concern is the potential loss of organic premiums in the market place. Organic products were long the province of health food stores and specialty outlets; however, the strong premiums commanded by organic products have not gone unnoticed by mainstream retailers, who have started to offer more organic items. If organic products eventually become "commoditized" by such large-scale mass retailers as Wal-Mart and Safeway (both of whom have launched organic campaigns in the past few years), the premiums may weaken to the point that profitability is seriously affected. Prices for organic dairy began declining 2007 and further discussion is outlined in the Managing Risk section.

### **Business Sustainability**

While one indication of business sustainability is the financial condition of the operation, an important indicator of sustainability is the general "health" of the resources: soils, animals, people, etc. The most important consideration for Hidden Valley is a good rotation for crops. Hay is critical to that sequence, and Hidden Valley averages a six-ton per-acre yield on organic hay, similar to the area average. Van Tassell typically fall seeds new crop alfalfa and holds it in the rotation for five years. Part of the philosophy with crop production at Hidden Valley Farm is that "if you feed the soil, the soil feeds the plant, take good care of one and the job is half done." Both compost and a liquid fish fertilizer are used on crops. Another key point of soil care is weed control. In addition to utilizing the rotation, planning has to be done well in advance with organic production because by the time it becomes evident there is a problem, as Perry puts it, "it's already too late." Some aspects need to be considered several years in advance to stay ahead of weed problems. Mechanical control is used and thus control is also more labor-intensive.

Hidden Valley's milk is sold to the neighboring Horizon Organic dairy, a division of Dean Foods, a long time dairy products company. With just a few miles between the two facilities, Horizon picks up milk from Hidden Valley. At this point, arrangements between Horizon and Hidden Valley are informal, no contracts or other written agreements.

Organic hay sales are typically made by phone calls to an established customer base across several states. Organic barley goes to Horizon's nearby operation. Prices for both organic hay and organic barley have been quite stable, typically garnering a 30 to 40% premium over the commercial market, although recent increases in grain prices have narrowed that margin.

Maintaining quality and consistency in both crop and milk products is important to Hidden Valley's long-term success. For crops, weeds have been the most difficult roadblock in maintaining quality. An aggressive program of mechanical control combined with a long-term perspective on crop rotation has been the key to success. Hidden Valley rotates five years in hay with a year of corn and a year of barley. Permanent pasture for the organic dairy occupies 70 acres. On the dairy side, the product's components (protein and butterfat), along with a somatic cell count (SCC) of less than 150,000 are what make the difference in pay. Hidden Valley watches those parameters carefully. The SCC fluctuates depending on weather and seasonal factors but has generally remained low.

A factor Van Tassell hadn't expected when he first ventured into organic farming and dairying was that in general, he has found dealing with other organic producers and suppliers to be a pleasant experience. His experience has been that individuals committed to organic production tend to be more honest in business dealings, more helpful, and more willing to share information and experiences. In an environment where there are no "organic field men," this type of sharing can make all the difference.

### **Managing Risk**

Historically, there have been fewer price risks associated with organic dairy production relative to conventional production because organic prices are higher than conventional and have tended to be quite stable. The lack of price volatility meant that typically prices for organic dairy didn't decline. Over the course of the past few years, many large-scale dairy suppliers noticed the premium dairy pricing and entered the market themselves. The increased supply (and therefore competition) caused organic dairy prices to decline in 2007 (Robinson-Jacobs, 2008). Industry experts predict that the high price of organic feed will lead some organic dairy producers to revert back to conventional production. As Hidden Valley sells all of its milk through Horizon Organic, who obtains 80% of its product from family farms (Horizon Organic, 2006), it is somewhat protected from market risks.

While price risk is mitigated through selling to a large distributor, Hidden Valley avoids the risks of increasing input costs by being largely self-sufficient in regards to feedstuff. The hay and grain that is used to make up the majority of the dairy ration is grown on-farm, although Hidden Valley does buy organic canola meal that is trucked in from Great Falls, Montana. Part of Van Tassell's philosophy is that the cows must have access to pasture, which is why Hidden Valley has 70 acres of dedicated pasture for summer grazing.

Another key to Hidden Valley continues success is avoiding outbreaks of illness in the herd through a strong vaccination program. Prevention of disease is key in an organic operation as livestock cannot be treated with antibiotics, so if a cure is needed it is often too late in terms of maintaining the animal's organic qualification. Hidden Valley's all-Holstein herd apparently does well; the cows average between 5 and 6 lactations with some experiencing as many as 12 lactations (a reasonable estimate of the national average is fewer than 3 lactations).

Presently all of Hidden Valley's heifers (all of which are organically raised) are being kept for a proposed expansion to 500 head. The bull calves are kept and fed out to about 1,000 pounds, when they are then sold to a feedlot for finishing. Waste feed is used for feeding out the steers.

Stability in the operation is very important to Perry Van Tassell. With low employee turnover, herd longevity, and a strong preventative program for weed control and herd health, Hidden Valley is stable. The milkers have been with the dairy between 3 and 10 years, with the longest term of any current employee at 14 years. Employee longevity is important as organic operations are often left to their own devices to solve problems, glean what they can from the experiences of employees and other organic producers.

### **Lessons Learned**

In working through the system and guiding his operation through the transition from conventional to organic production, Van Tassell feels there are a couple of key points for those who may be looking at a similar move:



1. Visit with someone who has gone through the process. Compared to conventional practices, the amount of organic information that has university-sponsored research behind it is minimal. Experience is invaluable.
2. A bonus for organic producers is the willingness among compatriots to share experiences.
3. Hidden Valley's success to date primarily to trial and error. Careful experimentation may be necessary on occasion, since there are no "organic field men."
4. One problem that has arisen is the lack of knowledge and understanding of organic rules by neighbors. Neighbors using conventional methods are concerned they may be responsible for any spray drift that might reach Van Tassell's fields. However, if there is spray drift, it is Hidden Valley's responsibility to maintain a buffer zone and not incorporate that part of the affected crop with the other organics.
5. The Idaho State Department of Agriculture, which oversees certified organic farms, has held seminars which have proved helpful. Other state certification agencies may do the same.

### **Future Directions**

The market for organic food products has enjoyed strong growth in recent history, increasing as much as 20% in a year. While the piece of the pie that is organic production is still quite small, it is increasing. With food recalls constantly in the press, consumers are more frequently considering their options for food alternatives and often feel that organic foods are the answer. One "problem" for Hidden Valley's future then, according to Van Tassell, is to keep supply in pace with demand. Thus, in the foreseeable future, he will continue to grow the dairy to 500 cows, at which point the size of the dairy will be reevaluated to see if more expansion is desirable or not. As with the rest of the farm, Van Tassell is planning to expand as necessary to maintain the production base to meet both his on-farm needs and those of his customers.

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