

Report based on research performed in 2009

Mihaela Cernusca, Michael Gold, Larry Godsey August 2011



Introduction Methods Survey results Interview findings Conclusion

# Introduction



The elderberry (Sambucus nigra) is a native fruit-bearing shrub common in western and central Europe as well as in North Africa, Scandinavia, and Great Britain. The species found in North America is Sambucus nigra subsp. canadensis. Commercial elderberry production is concentrated in Europe in Denmark, Italy, Austria and Germany. In the U.S., elderberry is not as well-known and utilized. According to Finn et al. (2008) Oregon was formerly a major elderberry producer but production has declined in recent years. Wild harvested fruit is sold commercially in a number of areas,

particularly in the Midwestern U.S. (Finn et al. 2008). Most of the elderberry cultivars in North America were developed decades ago either at the New York Agricultural Experiment Station or at Agriculture and Agri-Food Canada in Nova Scotia (e.g., 'Adams I', 'Adams II', 'Johns', 'York', 'Nova') (Finn et al. 2008). Recently, scientists from the University of Missouri have introduced two new cultivars: 'Wyldewood', a tall, vigorous elderberry plant that consistently produces high yields, is efficient to harvest, and produces fruit well-suited for processing (Byers et al., 2010); and 'Bob Gordon', a productive cultivar adapted to the agronomic conditions in the Midwestern U.S. that has outperformed the standard 'Adams II' and other genotypes in multiple studies (Byers and Thomas, 2011).

According to an article published in New York Berry News (Byers and Thomas 2005), most of the elderberries grown in the Midwest are harvested for processing markets. Several wineries produce elderberry wines from the fruit, while the flowers and panicles are used to flavor wines. Elderberry juice or fruit are used for jam and jelly. Elderberry juice and concentrates are marketed as nutraceuticals. The pigments in elderberry juice are suitable for colorant use. The berries are also used in the preparation of pies, punch, and liqueurs. The flowers can be added to the batter used to make various items, such as pancakes, muffins, or waffles. The flower clusters can be made into fritters. Elderberry flowers can also be used to make tea or a nonalcoholic cordial (Charlebois et al. 2010).

The American Botanical Council (2004) provided a review about elderberry uses as a medicinal plant. European and American elderberry's medicinal value has also been recently reviewed by Charlebois (2007). Elderberry is especially popular for its antiviral properties as it is recommended for the prophylaxis and treatment of influenza (Zakay-Rones et al. 1995, 2004, Roschek et al. 2009).

The literature about elderberry production and marketing in the U.S. is very scarce. A comprehensive horticultural review was published in 2010 (Charlebois et al. 2010) which compiles literature from around the world about elderberry botany, horticulture, propagation, and uses. Very little information has been published on the market potential, production volume and

cost of elderberry production; rather general information is available (Charlebois et al. 2010). Weeder-Einspahr (2001) conducted a Midwest regional market assessment for small fruits, including elderberries. Using guided telephone interviews, 66 jam and jelly manufacturers and 57 wineries were contacted in Nebraska, Iowa, Minnesota, South Dakota, Missouri and Kansas. Information collected included types and form of fruit used, current fruit source, quality criteria, annual quantities sources and prices paid. The study found that companies in the region used about 90,000 pounds/year of fresh or frozen elderberries in products ranging from jam and jelly, to syrup and wine. Prices paid averaged \$0.75 per pound of fruit. Some value-added producers sourced their product (juice concentrate) from Europe and the Pacific Northwest region. The study found that many of the jam and jelly companies in the Midwestern U.S. were small, often picked their own fruit from wild sources and processed it themselves. However, several larger jam and jelly manufacturers purchased large amounts of fresh fruit from growers, often under a verbal contract. Most wineries purchased concentrate from national suppliers, but also purchased fresh fruit when available. Smaller growers of fresh fruits for jam, jelly and wine markets had the best potential for success if they partnered with these companies to produce fruit under contract. However, given the overall volumes of fruit used by this industry in the Midwest, commercial production would be limited to a relatively small number of growers. Juice processors require large quantities and subsequent greater production investments by the grower. The possibility of addressing these markets in combination with others (e.g., nutraceuticals, organic colorings, etc.), and expansion of sales to small or medium processors could provide a market of sufficient size for a number of producers (Weeder-Einspahr 2001).

#### Specialty crop market research

The most common methods in market research for specialty crops are experimental in nature. Usually, companies and individuals are identified and then mail or phone surveys are conducted to obtain baseline information such as, number of companies, sales, volume, production size, production operation, trends in demand and supply, etc. (Gold et al. 2005, 2006, 2008). Qualitative methods (in depth interviews) can be used as an exploratory and developmental market research tool when little is known about market participants and more in depth information is required.

Research conducted in New Zealand (Hunt et al. 2005) used mixed (qualitative and quantitative) research methods to understand approaches to sustainable kiwifruit production. One of the goals of the project was to determine if the adoption of a particular management system is influenced by the social characteristics of orchardists. To accomplish this, a suite of social methods (e.g., semi-structured interviews, quantitative surveys, participant observations and interactive activities) were used to study the social lives of participants and to identify any relationships between these and management practices, especially those that impact sustainability.

Another study on specialty products was performed on calla growers in the New Zealand floricultural industry (Clemens et al. 1999). Callas are a relatively new exotic crop, as opposed to

traditional standard flowers such as roses, carnations and chrysanthemums. The success of the calla industry was studied to analyze and describe the parties involved, their problems and methods being used to address them. Researchers used a qualitative approach because information about the calla industry was not available (i.e., uncertainty about the number of calla growers, lack of addresses for businesses involved in the calla industry, lack of an official census of property sizes and outputs). Results provided information about growers' problems regarding their own operation and the important role of a strong grower organization in the success of the calla industry.

An exploratory and qualitative design was performed in a Virginia non-forest products study (Greene at al. 2000). In person interviews with market players explored market potential for crafts, medicinal and herbal and specialty wood products.

The California Institute for Rural Studies, through a cooperative agreement with the USDA Agricultural Marketing Service performed a study to explore the principal marketing barriers facing small- and medium-sized organic growers in California. Based on interviews and surveys with growers, buyers and experts familiar with the organic sector, the findings provide a detailed picture of key marketing challenges with recommendations for improving marketing opportunities (Cantor and Strochlic 2009).

This study sought to answer the following questions about the elderberry market:

- How can the market for elderberries and elderberry products be described?
- Who are the market participants along the value chain?
- ♣ Where the elderberry industry stands, is headed and has the potential to go?
- **♣** What are the elderberry market limitations?
- ♣ What are the risks and potential opportunities for producers and processors of elderberry?

# Methods

The theoretical model used for the survey and interview script development and analysis is based on the **Porter Five Forces Model (PFFM)** which describes the competitive forces that coordinate and control the market (Fig.1). According to Porter (1980), competition for profits in a given industry goes beyond regular competitors to include four other forces: customers, suppliers, potential entrants and substitute products. The interaction between all these forces defines an industry's structure and shapes the nature of the competitive interaction within that industry. While many factors can influence profitability in the short run, industry structure revealed in the competitive forces, establishes industry profitability in the medium- and long-term (Porter 2008).

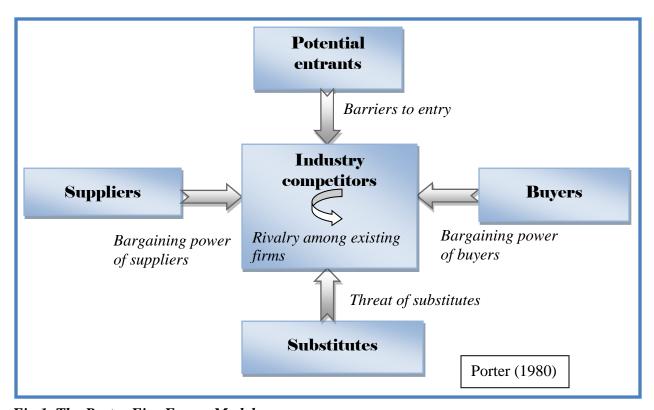


Fig.1. The Porter Five Forces Model

Because little is known about the elderberry market and market participants (i.e., lack of published information about the industry) a combined quantitative and qualitative approach was used to get baseline information about the market and the industry. Elderberry producers throughout the U.S. were identified using information from the Internet (e.g., keyword searches for businesses involved in all aspects of elderberry production, university and university

extension websites) and a database was created. More subjects were identified though a snowball approach (e.g., existing respondents refer potential respondents from among their contacts). A mail survey, launched in 2009, collected general information about market participants (e.g., position in the elderberry chain, products purchased, products sold, approximate annual gross sales figure from elderberries, percentage of elderberries in their overall business, length of time in the elderberry business, description and trends of supply, description and trends of demand, competition). A final question in the survey asked respondents if they agree to participate in a phone interview. The survey was mailed to all identified market participants. PASW Statistics 17.0 (SPSS) was used to analyze the data.

The mail survey was followed by interviews of people who agreed to participate in the second part of the research. The approach of responsive interviewing was used (Creswell 2007). Openended questions guided the conversation. To assure thoroughness, main questions, follow-up questions, and probes were designed to guide the interview. The main questions followed the theoretical model, addressing all forces that influence competition based on PFFM. Follow-up questions were developed as necessary to fill gaps in information, complete ideas, define and explain terms, or state implied concepts. To assure accuracy, all interviews were audio recorded using a digital recorder, after obtaining participants' permission to record. Notes were also taken during the interview by using an interview protocol. All interviews were transcribed verbatim and all records were maintained with the caution to respect anonymity and confidentiality. Data analysis was conducted in conjunction with data collection to allow flexibility. Concepts, themes and events were identified, refined, elaborated and integrated (Rubin and Rubin 2004). Codes were assigned to the main concepts and themes, and information was sorted, summarized and analyzed. NVivo 8 (QSR International) was used for data sorting, coding and categorizing. The research was conducted within the sets of constraints set forth by the University of Missouri Institutional Review Board to make sure that the participants were informed about the risks and benefits of participating in the research. Only aggregated data are reported and no names are associated with any particular answer.

# Survey results

From 159 surveys sent to individuals and companies with any involvement in the elderberry value chain identified through Internet search and referral, 74 responses were obtained. Surveys were received from all over the U.S.: AR, CA, FL, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MO, MT, NC, ND, NE, NH, NY, NV, OH, OK, OR, PA, SC, SD, TN, TX, UT and VA



Fig.2 Survey respondents

Of the 74 respondents, 49% grow elderberry to sell or to create value added products; 44% grow plants for own use or to sell; 26% pick elderberry from the wild and use them in their own business or sell them to wineries or to other value added producers, 22% produce value-added products other than wine and nutraceuticals; 18% are wineries and 4% produce and sell nutraceutical products (Fig.3). Most survey respondents are involved in more than one activity in the value chain (Fig.4). For example, of the 49% of respondents (35) that grow elderberry, 10 also pick elderberry from the wild in addition to their own production, 13 also propagate their own plants and 12 produce value-added products (Table 1).

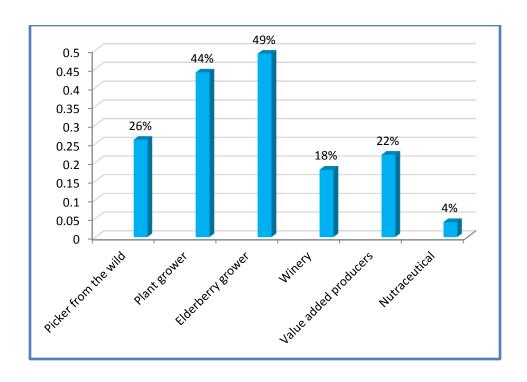


Fig.3. Activities performed by survey respondents

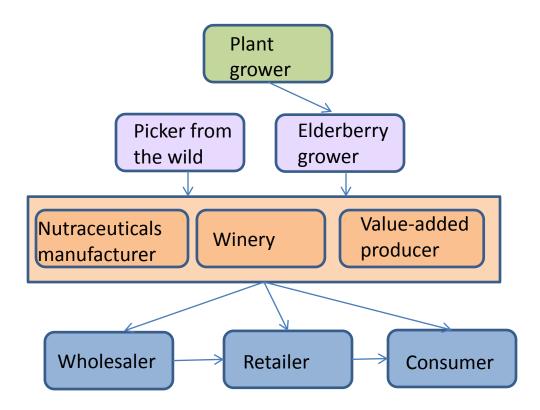


Fig.4. Elderberry value chain

Table 1: Representation of survey respondents in the value chain

Representation of survey respondents in the value chain				
Picker from the wild			26%	
	Picker from the wild and value added producer			
	(including wine)	6		
	Picker from the wild and elderberry grower	10		
Plant grower		32	44%	
	Plant grower for sale only	16		
	Plant grower for own use (occasionally for sale)	16		
Elderberry grower		35	49%	
	Elderberry grower and picker from the wild	10		
	Elderberry grower and plant grower (for own use)	13		
	Elderberry grower and value added producer	12		
Winery		13	18%	
	Winery that grows own elderberry	5		
	Winery that propagate plants for own elderberry			
	growing	3		
	Winery that picks elderberry from the wild	4		
	Winery and other value added producer	2		
Value added producers			22%	
	Solely value added producer	4		
	Value added producer and winery	2		
	Value added producer and grower	12		
Nutraceuticals manufacturer			4%	
	Only nutraceuticals manufacturer	2		
	Nutraceuticals manufacturer and winery	1		

#### Involvement in the elderberry industry

Most respondents are part time growers/producers or hobbyists:

- 75% earn less than \$10,000 a year from elderberry
- 13% earn between \$10,000 and \$50,000
- 10% earn more than \$50,000 per year

For the majority of respondents (75%) elderberry accounts for less than 10% of their business.

Thirty-eight percent have been in the elderberry business less than 5 years, 30% 6-10 years and 32% over 10 years in the elderberry industry (Fig.5).

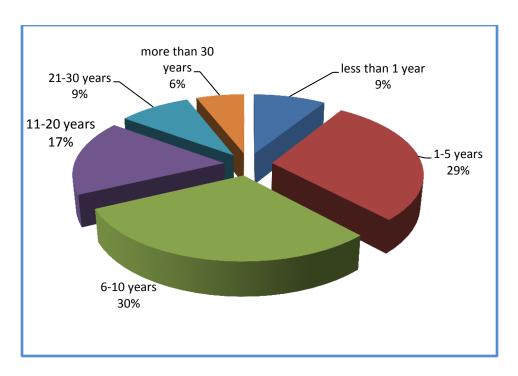


Fig.5. Longevity of survey respondents in the elderberry business

#### **Supply - Products purchased**

Respondents purchase plants, flowers, fruit, juice or concentrate for their elderberry business. Out of the total sample of respondents, 60% grow/produce their own supply and 53% purchase the inputs needed for their elderberry business (e.g., plants, flowers, fruit or juice) (Fig.6).

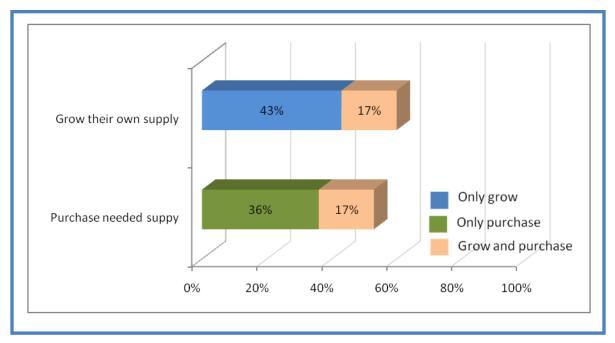


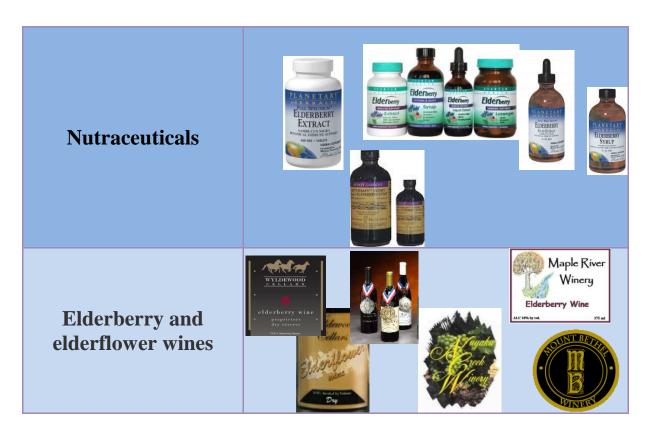
Fig. 6. Origin of supply

#### Products sold and trends in demand

Respondents sell plants (42%), flowers (8%), elderberry fruit (22%), juice (11%), concentrate (8%), wine (18%), and nutraceutical products (4%). In general, elderberry fruit requires processing. Much of the crop is frozen immediately after harvest, which facilitates long-term storage until processing. Alternately, the fresh fruits can be pressed and the resulting juice frozen (Charlebrois et al. 2010). Other value added products sold included juice, concentrate, jelly, preserves, sauce, jam, yogurt, ice cream, fudge, and colorant (Table 2). Nurseries sell plants to elderberry growers, wholesalers, retailers, individual customers (e.g., home and land owners) and to agencies for restoration, reforestation and reclamation. Elderberry growers sell elderberries to wineries, nutraceutical companies, other value-added producers and directly to consumers. Wineries sell directly to consumers, to retailers, and to other wineries. Value added producers (other than wineries and nutraceuticals) sell to individual consumers, to retailers, distributors and wholesalers. Nutraceutical producers sell to distributors, retailers and health practitioners. Fifty-seven percent of respondents sell to a local market, 40% sell regionally, and 43% sell nationally. Most respondents sell to a combination of areas.

Table 2: Products sold





Regarding trends in demand, 54% consider that demand has increased in the past 5 years, 19% that demand remained stable, 1% that demand decreased (Fig.7).

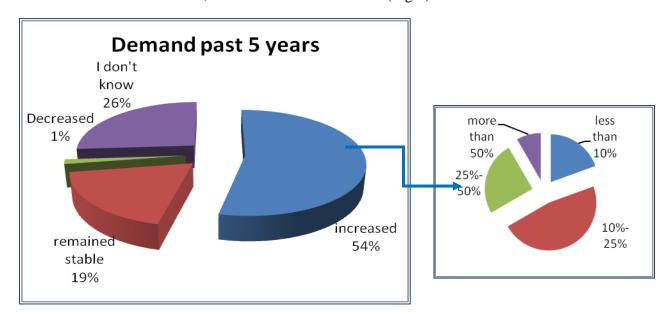


Fig.7. Changes in demand in the past five years

Present demand is steady according to 47% of respondents, strong according to 24% and weak according to 13%.

Fifty-nine percent stated that demand is going to increase in the next 5 years, 19% that demand will remain stable and 1% that demand will decrease (Fig.8).

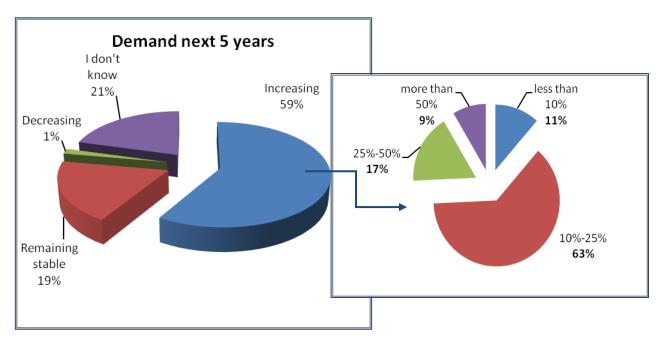


Fig.8. Trends in demand in the next five years

#### Competition

Forty-one percent of respondents declare that the elderberry industry is non-competitive, 21% moderately competitive while 38% don't have any opinion (Fig.9).

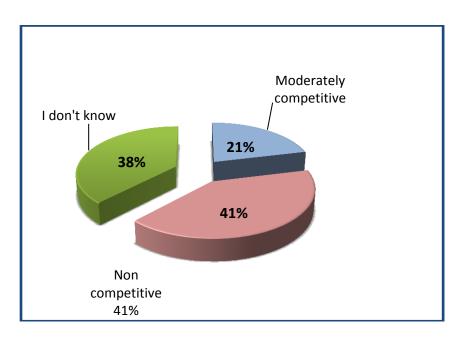


Fig. 9 Competition in the elderberry industry

# Interview findings

Twenty phone interviews were performed with people from the following states: MO, OK, VA, AR. CA, IL, KS, NC, ND, NY, SC, SD and VT (Fig.10).



Fig.10. Interview respondents

A general description of the interviewees is presented below. Some of the respondents are integrated along the value chain (e.g., grow own plants, grow elderberry, produce value added products, or grow elderberry and produce wine and other value added products, etc.) (Table 3).

A respondent was considered a grower as their main position in the value chain if he/she sells elderberries as the main product sold. Pickers from the wild who pick and sell elderberry were classified as growers too. If an interviewee grows elderberry but use them exclusively to produce value added products, he/she was considered value added producer in terms of this classification.

Table 3: Description of interview respondents

No.	Longevity in the elderberry business	Main position in the chain	Second position	Percent elderberry
1	21-30 years	Grower		Less 5%
2		Grower		6-10%
3	11-20 years	Grower		Less 5%
4	6-10 years	Grower		More than 80%

5	Less 5 years	Grower	Value Added	Less 5%
6	6-10 years	Grower		Less 5%
7	6-10 years	Nutraceutical		11-20%
8	6-10 years	Nutraceutical	Grower	11-20%
9		Nutraceutical		Less 5%
10	11-20 years	Plant grower		More than 80%
11	11-20 years	Value Added	Plant grower	More than 80%
12	6-10 years	Value Added	Grower	6-10%
13	6-10 years	Value Added	Grower	6-10%
14	Less 5 years	Value Added	Grower	11-20%
15	21-30 years	Winery		Less 5%
16	11-20 years	Winery		Less 5%
17	Less 5 years	Winery	Value Added	
18	11-20 years	Winery	Nutraceutical	More than 80%
19	Less 5 years	Winery	Value Added	6-10%
20	6-10 years	Winery	Value Added	21-40%

A summary of the responses to the main questions and an analysis of the Porter Five Forces are presented below and in Fig.11. A visual representation of the responses with actual quotes are presented in the appendix.

#### Why elderberry? - Motivation to grow/produce elderberry

Value added producers (e.g., winery, nutraceutical and other value added) were motivated to produce elderberry products by favorable trends (e.g., increased interest in new, locally produced, health improving food products) and market opportunities (e.g., to replace bad tasting and/or expensive imported products).

Some respondents were confident about starting an elderberry business after successfully experimenting for own consumption. The availability of elderberry in the wild encouraged some respondents to start creating various value added products.

Elderberry is a new product but with a long history and tradition. Nostalgia for elderberry wine (country wine that grandma/grandpa used to make) and the folklore surrounding elderberry (e.g., Monty Python or Arsenic and Old Lace) creates free publicity for the product and draw people to try elderberry products (Appendix - A1).

Growers were motivated to start an elderberry business because elderberry is a unique and interesting crop with many health benefits, a native plant that grows well in the area and can be grown organically. Elderberry can be grown without pesticides in sustainable agricultural systems to generate income while simultaneously protecting and conserving soil, water and other natural resources. If compared to grapes, elderberry is superior in terms of time to production, expenses, and productivity, according to some respondents (Appendix - A2).

#### What were your expectations when you started?

Respondents that had a business orientation from the beginning had as goals to create a profitable business, to grow the business, to sell out, to diversify their existing product line, or to develop a new product. Serious commercial growers had the goals to develop sustainable production and develop a "elderberry regional industry".

Respondents with a hobby orientation only wanted to learn about and/or experiment with elderberry (Appendix - A3).

#### What did you need in order to get started?

Entry into the elderberry industry requires equipment and facilities like freezers, de-stemmer, press, bottles, crusher, or a facility. Respondents that added elderberry to an existing operation didn't need much extra equipment. All respondents required information on how to grow or produce an elderberry product. Information was obtained by exploring of information available on the Internet, research articles, workshops, through their own experience and learning by doing and via feedback from customers. They also required money and/or financing, labor, and elderberry plants or fruit. Respondents stated that plant material and a reliable source of elderberries are hard to find. Respondents also required a market to sell. (Appendix - A4).

#### What did it take to become successful and remain successful?

Striving to provide good quality products was mentioned as a requirement for success by most respondents. Persistence, taking advantage of opportunities and watching and listening to customers' needs were also mentioned. Other things that helped some respondents to become successful were using promotion at the local shows, festivals, and magazine articles, advertising (TV, radio), sampling ("get the product into people's mouth") and establishing a demonstration planting field ("You have to have something to show people") (Appendix - A5).

#### Challenges encountered

Among the challenges encountered by the respondents to establish an elderberry business were:

- Finances: personal finances and credit. Obtaining financing is a challenge because banks lack detailed financial information concerning the elderberry industry and are therefore reluctant to provide loans.
- Supply: insufficient supply of plants or berries. Local plant varieties are difficult to locate and source especially if large quantities are needed. For wild elderberries, the problem encountered was with inexperienced pickers who provide berries with variable quality or mistake the berries for something else. Domestic elderberry fruit supply is limited therefore respondents either supplement fruit with imported concentrate or limit their production. Supply is also perishable requiring immediate processing or freezing.
- Production/growing: Information about growing elderberry is lacking and people need to go through trial and error and keep experimenting while dealing with different problems. There is no dedicated equipment for mechanical harvesting making the whole process very labor intensive. People need to be trained to pick quality fruit. Respondents had to deal with unknown pests, non-labeled pesticides and untested fertilizers and rates of application. One respondent mentioned bird damage as a serious problem. Another problem mentioned by respondents was the lack of quality standards. This problem was reported by grower and processor alike. The grower wanted to know exactly what to pick and what quality is required by the seller. The processor also wanted to have elderberry standards so he could require all people to bring the same quality.
- Processing: Challenges reported by processors were the lack of a processing plant which
  is difficult to build. Some respondents reported problems with finding the right way of
  making elderberry wine.
- Sale: Marketing challenges mentioned by some respondents included: establishing a
  presence on the Internet and making time for farmers markets and the distribution system.
  One respondent mentioned the need for a grower co-op that would take care of
  marketing, letting growers do what they know best: grow. Distributors were mentioned as
  challenge by most respondents. Because of low volume, it is hard to get into the
  distribution system.
- Policy, law, regulation; The wine industry is heavily regulated from state to state and this
  puts all kinds of restrictions on shipping wine. FDA regulations limit the market because
  producers are not allowed to promote the medicinal values of elderberry unless long term,
  expensive clinical trials support the claims. There are regulations regarding fruit or plant
  import or export into the state or the country.
- Other: Prejudice in the wine business towards grape wine was mentioned by one of the respondents making it harder to prove the high quality of elderberry wine. Prejudice towards large farms and commodity crops was mentioned by another respondent and this influences legislators attention towards specialty crops. The elderberry industry is not recognized and elderberry doesn't appear on the label of a pesticide or herbicide (Appendix A6).

#### What's your vision for the future?

Some respondents presented a clear vision (Appendix - A7) such as:

- Grow at a reasonable pace, establish more wineries in more states
- Grow, propagate more plants, increase the number of products
- Develop new elderberry based products
- Diversify the elderberry products
- Expand value added
- Grow the industry

For other respondents, their vision is dependent on certain conditions (Appendix - A8) like increased supply and demand or development of harvesting equipment:

- If demand increases We'll try to get more and more elderberries at the farm
- If we had enough elderberry and facilities we would make a non-alcoholic elderberry iuice
- If we don't get other fruits in one year and have enough elderberry we may increase production of elderberry
- If I can buy 1000 pounds of elderberry I would add two more wines to our menu.
- If I could purchase juice or already destemmed elderberries I would develop medicinal markets for it
- If I got higher producing regional varieties and then some sort of mechanization I would ramp up my production of elderberry wine dramatically
- If the business in general expands I would add more elderberry

#### The threat of new entrants

New entrants to an industry can raise the level of competition, thereby reducing its attractiveness. The threat of new entrants depends on the height of entry barriers and the reaction entrants can expect from incumbents. Barriers to entry are advantages that incumbents have relative to new entrants like economies of scale that favor large firms and keep small firms out, cost advantages for existing firms, the investment needed for start-up, the lack of necessary information and difficult learning curve, etc.

There are few large players in the elderberry industry. Larger firms can more easily gain access to the limited supply. "Because of our success, people come to us, they want to grow for us, that's how we get growers" as compared to a smaller business. "I haven't had the opportunity to get any more elderberries. I even put an ad in the local paper for people to pick elderberry and we would pay them per pound". The result is a much higher price paid for supply by a potential newcomer and limited production because of limited supply.

Entry into the elderberry industry requires some investment, depending on the position in the value chain. Buildings, freezers, and equipment are some of the necessary investments required to start an elderberry business. When new entrants are diversifying from other markets, they can

leverage existing capabilities and cash flow. Presently, obtaining financing is a challenge because banks lack detailed financial information concerning the elderberry industry and are therefore reluctant to provide loans. "And there is no help. Banks don't even know what elderberry is"; "Banks don't understand the potential elderberry can have". Information about growing elderberry is lacking. In a few areas, universities, experienced growers or processors lower this barrier by organizing workshops and providing the necessary information to get started. The laws regulating alcohol create barriers in the wine industry. Different laws in different states are a major problem for wineries trying to get wine to the people that want it. Some states don't allow shipping wine out of the state, other states don't allow shipping wine into the state. FDA regulations limit the market because producers are not allowed to promote the medicinal values of elderberry unless long term, expensive clinical trials support the claims.

In conclusion, in the early stages of the life cycle of the elderberry industry, new entrants are relatively benign, they help grow the market. However, even if new entrants are not currently a threat, all the entry barriers characteristics should be taken into consideration by market participants and used to create advantages for the future.

#### Suppliers / Bargaining power of suppliers

Suppliers are the individuals and businesses that provide the raw materials to be transformed into goods provided to customers (e.g., plant growers are suppliers for elderberry growers; growers (fruit producers) are suppliers for value added producers). Most respondents indicated that the domestic elderberry fruit supply is limited therefore they either supplement fruit with imported concentrate "The main supply is local and we supplement with European concentrate when we need to" or limit their production "If I could buy 1000 pounds of elderberry, I would like to make more elderberry wine and I would like to make a port out of it, and a dry elderberry wine". Import prices have increased over the past few years and imported concentrate is becoming harder to obtain "I have friends that can't get enough elderberry concentrate and the price is on the high side compared to the past". Imports come from Germany or Poland but finding the right quality and a reliable supplier pose challenges to U.S. producers. Most respondents prefer locally produced elderberry over imports. Because of the limited supply most value added producers, including wineries, grow their own elderberry "I have never purchased any but that's largely because there is none available to be purchased that I know of". Most nutraceutical companies strongly prefer European elderberry varieties because more medical research has been done on European elderberry. Plant supply is also limited. Some growers purchase plants (domestic or imports) and propagate. However, large quantities of plants for commercial production are not available, locally proven varieties are hard to find, and supply is not always reliable. Additional plant and fruit supply is needed for the existing industry players to operate at full capacity or to grow (Appendix - A9).

#### **Buyers / Bargaining power of buyers**

Buyers are the people/organizations who create demand in an industry. There are a variety of elderberry products sold by the interview respondents: plants - plants in pots, cuttings, seeds (dry berries); fruit - fresh elderberries by the pound, de-stemmed elderberries to wineries, dry flowers, dry and fresh fruit to medicinal companies, de-stemmed elderberries for pies or jams, frozen berries; wine - different elderberry wines ranging from dry to sweet, pure and blended; nutraceuticals - juice, concentrate, extract, syrup; pure elderberry or in mixes; other value added - jelly, syrup, vinegar, fudge, barbeque sauces, salad dressing, carbonated beverages, cordial, juice blends, yogurt, jam, pie (Appendix - A10).

Plants are sold regionally and even nationally (Appendix - A11). Demand for elderberry plants has greatly increased. As more people are trying to experiment or get into commercial production, demand for tested plants is increasing. Fresh or frozen elderberries are sold through different outlets for various uses and various prices: to wineries for wine making for prices ranging from \$0.50 (with stems) to \$5 a pound (de-stemmed), in farmers markets or online to individuals (\$3 to \$5 a pound), and to nutraceutical manufacturers for \$11 a pound. Respondents stated that demand for elderberry fruit is high. Wineries are seeking more local supply. Chefs are increasingly interested in elderberries. The "buy local" trend supports the increase in elderberry demand.

Wine is sold primarily at wineries and retail outlets. Some states allow wine shipment, others do not. Distributors have power in the wine industry making it difficult for wine producers to enter distribution channels and obtain grocer shelf space "Distributors claim that is not enough demand for < state> wine for them to purchase our wine". Because the wine industry is tightly regulated, most elderberry wine is sold inside state borders. Wine prices are good, selling between \$10 and \$14 a bottle. According to interview respondents, demand for elderberry wine is increasing and it's driven by increased consumer interest in their health "For me, it seems that consumption on wine in general has increased... But there seems to be a renewed interest in fruit wines especially in elderberry and blueberry. They get some recognition in being health beneficial, antioxidant. These made a lot of people seek them". The Internet is also helping to increase sales. Even if state laws prohibit shipping, potential customers find out about the wine on the Internet and travel to the winery.

A variety of value added products are sold by respondents - jelly, syrup, vinegar, fudge, barbeque sauces, salad dressing, carbonated beverages, cordial, juice blends, yogurt, jam, pie. Demand for value-added elderberry is not increasing for all respondents. They sold out or increased their sales in general but do not know if this is an upward trend. Demand for jelly is lacking in some states because other fruits are preferred by consumers.

Nutraceuticals sold include juice, concentrate, extract, syrup, pure elderberry or in mixes. Nutraceuticals are mostly sold nation-wide, direct to health food stores and to health food store distributors "We sell to 10,000+ health food stores and about 13,000 health professionals around the country. We sell only wholesale, nationwide". Syrup and concentrate are also sold directly to the consumer.

Besides distributors in the wine industry, there is no buyer power. According to one of the respondents, between suppliers and buyers "it's a partnership not an adversarial relationship". Both suppliers and buyers work together to grow the industry.

#### Trends in demand

According to interview respondents, demand for elderberry wine is increasing and it's driven by consumer increased interest in their health. Respondents report a lot of repeat customers. Customers like the wine and the elderberry value added products. One respondent thinks that demand for wine has increased in general and it is a renewed interest for fruit wines, especially elderberry and blueberry because of their assumed beneficial health properties. The Internet is also helping the increase in sales. Even if the state laws prohibit shipping, potential customers find out about the wine on the Internet and visit the winery. One respondent sees consumers these days more open minded to exotic wines like elderberry.

The demand for value-added products is not a clear cut picture for all the respondents. They sold out or increased their sales in general but cannot quite talk about a trend. Demand for jelly suffers in some states because of other fruit being preferred in consumers' jelly preferences. For one of the respondents that sells wine and value added, elderberry value-added products are preferred over wine. "They like the flavor, they like the value, and they like the benefits even if they have never heard of elderberries before."

Demand for elderberry plants has greatly increased. As more people are trying to experiment or to get into commercial production, demand for tested plants is increasing.

Respondents think that demand for elderberry fruit is very high. Wineries are very interested in finding a good supply. There are also chefs in the area that are increasingly interested in elderberries. The local trend is very helpful in the increase in demand for elderberries.

The trends in demand for nutraceutical products are also increasing (Appendix - A12).

#### Competition / Intensity of rivalry among existing competitors

Rivalry can take many forms such as price discounting, new product introductions, advertising campaigns, and service improvements. In this embryonic stage of the industry, competition is nonexistent or low but differs a little bit for different players in the market. Because of high demand and few growers, growers indicate no competition. Most of the grower respondents are the only growers in their region or if there are more growers, each has his/her own niche.

For value added producers, because of the limited number of producers and limited supply, each elderberry producer created his/her own niche market. There are not many producers: "a few people making syrup, a few people making jelly but nothing on any kind of scale". Respondents that sell in grocery or health food stores are competing like everybody else for shelf space.

Winery respondents also indicated no competition "No, I don't have competitors in my area". There are not many wineries producing elderberry wine"; No really, I don't see much of elderberry wine produced in this region". One respondent has other wineries in the area but they are not competitors for him "I consider they are beneficial". They have a wine festival jointly organized by all wineries in the area.

For nutraceuticals the situation is a little bit different. There is some competition from Europe and leading brands like Sambucol. Even so, respondents don't consider this a competitive industry. Their products differentiate by quality. According to one respondent, the European products which are the leading sellers in the stores, are really inferior in quality and this provides domestic companies an advantage and the opportunity to offer high quality products without artificial ingredients, without sugar in them and without fillers (Appendix - A13).

Respondents created competitive advantages that differentiate them from other producers and in the eye of their customers (Appendix - A14). Some play on quality (the highest quality botanicals on the market, using natural sweeteners, proprietary wine making techniques), others on price (economically priced products). Some respondents mentioned customer service as a competitive advantage. Local production and creating a relationship with the customer is important for other respondents. For most of the respondents, being the first in the market allows them to reap the benefits because nobody else is doing it. The industry is embryonic, from growers to value added producers. The business concept itself provides advantage to some of the respondents ("small enough and diversified enough" or "using food manufacturers to custom pack anything", or creating a demonstration site by the winery or having an active Internet presence).

#### **Substitute products / Threat of substitutes**

A substitute performs the same or a similar function as an industry product by a different means. There are substitutes for elderberry and elderberry products. Grape wine and fruit wine substitute for elderberry wine, other fruit/berry jelly substitute for elderberry jelly, and any juice, syrup or concentrate can be substituted for elderberry juice, syrup or concentrate. Capsule, tablets, extracts rich in flavonoids, antiviral or antihistamine properties substitute for similar elderberry products (Appendix - A15).

However, elderberry has very unique properties that puts it in a class by itself. In spite of a lack of proven research and medical claims, people recognize elderberry's unique health benefits "If red wine is healthy for you than elderberry wine must be healthier. I don't know if there is data to support that, but this is the perception".

According to the respondents, their customers recognize the health benefits of elderberry. Some truly believe that it lowers cholesterol, that it has viral protection, that it is a natural antihistamine helping people who suffer from allergies and that it has high antioxidant levels. Some customers' doctors recommend elderberry "We don't make health claims at all but is kind of cute when customers come in and say Oh, my doctor told me". Flavor and taste also differentiate elderberry from other similar fruit/berries/products. Respondents describe elderberry wine's flavor as complex and rich with a finish that provides altogether a unique experience from the flavor stand point. Elderberry seems to be a new product on the market but with history and tradition. It has been used for centuries as a natural remedy and to improve the taste of grape wine. Memories of grandpa's elderberry wine or grandma's elderberry pie are also specific for elderberry. There are stories around elderberry that help reintroduce it on the market "And the folklore around it, for me is the biggest factor maybe more than the health factor". For some people, elderberry resonates with a line in Monthy Python that brings laughs when remembered, for others with the Arsenic and the Old Lace play by Joseph Kesselring "And almost every single person that has seen Monthy Python would buy a bottle of wine. It's an ownership to them because when they have friends over they can say 'Look at this and say the quote'".

Although people can substitute elderberry with other similar products, the unique properties of the elderberry keeps it as a choice for many customers.

# Conclusion

Elderberry is a small but growing industry with high growth prospects. Being in its development stage, the industry is represented by a few important players who are entrepreneurs and innovators and other small scale participants producing at an experimental level. They sell to early adopter customers and focus their efforts on creating consumer awareness for the product and the industry.

The industry is vertically integrated at this time. Most of the market participants are involved in multiple stages of the value chain: they propagate their own plants, grow elderberry, and produce some value added products (wine, juice or jelly) instead of focusing only on one product or service. As in any nascent market, there is room for new companies to enter and differentiate through innovation and product features along with brand, service or price.

Entry into the elderberry industry requires some investment, depending on the position in the value chain. When new entrants are diversifying from other markets, they can leverage existing capabilities and cash flow (e.g., vegetable producers, wine makers). Attracting financial support from financial institutions is difficult because of the newness of the industry. If industry returns are attractive and are expected to remain so, investors will provide entrants with the funds they need. Information about growing elderberry is lacking and people need to go through trial and error and keep experimenting while dealing with different problems. There is no dedicated equipment for mechanical harvesting making the whole process very labor intensive. Harvesting

elderberry is difficult because the fruits do not separate readily from the stems; American elderberry's crown is wide, spreading the catcher plates on currently available mechanical harvesters and causing considerable fruit to fall to the ground (Charlebois et al. 2010). People need to be trained to pick quality fruit. Respondents had to deal with unknown pests, unregistered pesticides and lack of specific fertilizer recommendations. The lack of quality standards at the industry level creates challenges for growers and producers alike. In the early stages of the life cycle of the elderberry industry, new entrants are relatively benign, helping to grow the market. However, being aware of all the entry barriers' characteristics will help market participants create competitive advantages for the future.

Domestic supply is low; there are few tested plant varieties. It is important to plant cultivars tested in specific environments to assure good performance (Charlebois et al. 2010). In the absence of tested cultivars and dedicated nurseries, growers need to buy whatever they find and propagate their own plants. Processors face the same supply shortage. Fruit supply is not readily available. Some value added producers produce their own fruit, others compensate with imported concentrate while others pay more to obtain the needed supply. A bigger player in the industry can more easily access the limited supply. The result is a much higher price paid for supply by a potential newcomer and limited production because of limited supply.

There are a variety of products sold: plants in pots, cuttings, seeds, fresh and frozen elderberries, dry flower, wine, juice, concentrate, extract, syrup, jelly, syrup, vinegar, fudge, barbeque sauces, salad dressing, carbonated beverages, cordial, juice blends, yogurt, jam, pie. Prices are good across the value chain. It is difficult to gain access to distribution channels because of the low volume or because distributors claim low demand for elderberry wine for example. Farmers market, tasting rooms, farm stores, local groceries or health food stores and Internet are the most widely used market outlets. Demand trends are favorable. The health properties of elderberries attract customers. Organic and locally grown foods are perceived by consumers as healthier and safer for both people and the environment. Consumers are seeking out locally sourced nuts, fruits and vegetables for their health and on farm agri-tourism experiences to reconnect with their food sources.

Although there are products on the market that can substitute for elderberry products, elderberry's unique properties (e.g., health benefits, flavor and taste, history and tradition, folklore around it) place elderberry in a class of its own. Competition is low or non-existent at this time, each firm creating its own niche and cooperating with one another. Firms attempt to establish early perceptions of product quality, service superiority, or advantageous relationships with customers to develop a competitive advantage.

The industry is poised for growth. Industry leaders have a special responsibility for growing the industry to the benefit of all market participants. Expanding the overall profit pool creates winwin opportunities for all industry participants (Porter 2008). The five competitive forces provided a framework for identifying the most important industry developments and for anticipating their impact on industry attractiveness.

#### THREAT OF NEW ENTRANTS

- Entry into the elderberry industry requires investment, depending on the position in the value chain
- When new entrants are diversifying from other markets, they can leverage existing capabilities and cash flow
- Hard to obtain financing Banks lack examples of proven profit potential for elderberry
- There are no big players so far, but a big player can more easily access the limited supply
- Production and marketing knowledge need to be acquired through experience

#### BARGAINING POWER OF SUPPLIERS

- Fruit and plant supply is limited
- Existing supply is of inconsistent quality
- Import prices have increased
- Some value added producers (including wineries) grow their own elderberry
- Most elderberry growers propagate their own plants

#### COMPETITION

- The elderberry industry is not very competitive
- Elderberry growers and value added producers have their own niche
- Wineries cooperate



- For nutraceutical manufacturers there is competition from Europe and leading brands
- Firms create competitive advantages including quality, customer service and unique business concepts

#### THREAT OF SUBSTITUTES

- Grape wine and fruit wine substitute for elderberry wine, other fruit/berry jelly substitute for elderberry jelly, and any juice, syrup or concentrate can be substituted for elderberry juice, syrup or concentrate. Capsule, tablets, extracts rich in flavonoids, antiviral or antihistamine properties substitute for similar elderberry products.
- Unique properties (e.g., health benefits, flavor and taste, history and tradition, folklore).

#### BARGAINING POWER OF BUYERS

- Fruit, value added products and wine are mainly sold locally; plants and nutraceuticals are sold regionally and nationally
- Demand is increasing for all elderberry products
- Wineries are interested in getting a quality and reliable domestic source of elderberries
- Very limited access to distributors of

# Fig. 11. Representation of the influence of the Porter's Five Forces (Porter, 1980) on the elderberry market as resulted from the market research study

# References

- American Botanical Council (2004) The ABC clinical guide to elderberry. <a href="http://abc.herbalgram.org/site/DocServer/Elderberry-scr.pdf?docID=165">http://abc.herbalgram.org/site/DocServer/Elderberry-scr.pdf?docID=165</a> Accessed July 6 2011
- Byers PL, Thomas AL, Millican M (2010) 'Wyldewood' Elderberry HortScience 45(2): 312-313 Byers PL, Thomas AL (2005) Elderberry research and production in Missouri. The New York Berry News 4:11.
- Byers, PL, Thomas AL (2011) 'Bob Gordon' Elderberry. J. of the Amer. Pomol. Soc. 65(2):52 55.
- Charlebois D (2007) Elderberry as a medicinal plant *In*: J. Janick and A. Whipkey (eds.), Issues in new crops and new uses ASHS, Alexandria, VA pp. 284–292.
- Charlebois D, Byers P, Finn, CE, Thomas AL (2010) Elderberry: botany, horticulture, potential. Hort. Rev. (Amer. Soc. Hort. Sci.) 37:213-280.
- Cantor A, Strochlic R (2009) Breaking down market barriers for small and mid-sized organic growers. California Institute for Rural Studies, <a href="http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5081306">http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5081306</a> Accessed July 6, 2011.
- Clemens J, Cameron EA, Funt RC (1999) Challenges for calla growers in the unsubsidized new Zealand export market. HortTechnology 9(3):478-482.
- Creswell JW (2007) Qualitative inquiry and research design: Choosing among five approaches. Thousand Oaks, CA, Sage.
- Finn CE, Thomas AL, Byers PL, Kemal M (2008) Evaluation of American (*Sambucus canadensis*) and European (*S. nigra*) Elderberry Genotypes Grown in Diverse Environments and Implications for Cultivar Development HortScience 43(5):1385–1391.
- Gold MA, Godsey LD, Cernusca MM (2005) Competitive market analysis of eastern red cedar. Forest Products Journal 55(12): 58-65.
- Gold MA, Cernusca MM, Godsey LD (2006) Competitive market analysis: chestnut producers. HortTechnology 16(2): 360-369.
- Gold MA, Cernusca MM, Godsey LD (2008) A competitive market analysis of the U.S. shiitake mushroom marketplace. HortTechnology 18(3): 489-499.
- Greene SM, Hammett AL, Kant S (2000) Non-Timber Forest Products Marketing Systems and Market Players in Souuthwest Virginia: Crafts, Medicinal and Herbal and Specialty Wood Products. Journal of Sustainable Forestry, 11(3): 19-39.
- Hunt L, Rosin C, McLeod C, Read, M, Fairweather J, Campbell H (2005) Understanding approaches to kiwifruit production in New Zealand: report on first qualitative interviews of ARGOS kiwifruit participants. ARGOS Research Report: Number 05/01. Agriculture Research group on Sustainability. New Zealand <a href="http://www.argos.org.nz/pdf">http://www.argos.org.nz/pdf</a> files/Research Report 05 01 ARGOS%20Kiwifruit%20R eport%20on%20first%20interviews%202005.pdf Accessed July 6, 2011.

- Porter ME (1980) Competitive strategy: techniques for analyzing industries and competitors. The Free Press, New York.
- Porter ME (2008) The Five Competitive Forces that Shape Strategy. Harvard Business Review. <a href="http://www.ascendcfo.com/pdfFiles/HBR-The%20Five%20Competitive%20Forces%20That%20Shape%20Strategy.pdfm">http://www.ascendcfo.com/pdfFiles/HBR-The%20Five%20Competitive%20Forces%20That%20Shape%20Strategy.pdfm</a> Accessed July 6, 2011.
- Roschek B, Fink RC, McMichael MD, Li D, Alberte RS (2009) **Elderberry** flavonoids bind to and prevent H1N1 infection in vitro. Phytochemistry. 70(10):1255-1261.
- Rubin H J, Rubin I.S. (2004). Qualitative interviewing: The art of hearing data. Thousand Oaks, CA: Sage.
- Zakay-Rones Z, Varsano N, Zlotnik M, Manor O, Regev L, Schlesinger M, Mumcuoglu M (1995). Inhibition of Several Strains of Influenza Virus *in Vitro* and Reduction of Symptoms by an Elderberry Extract (*Sambucus nigra* L.) during an Outbreak of Influenza B Panama. The Journal of Alternative and Complementary Medicine. 1(4): 361-369.
- Zakay-Rones Z, Thom E, Wollan T, Wadstein J (2004) Randomized study of the efficacy and safety of oral elderberry extract in the treatment of influenza A and B virus infection J. Int. Med. Res. 32:132-140.
- Weeder-Einspahr S (2001) Midwest wild fruits and berries: market research report. Lincoln, NE. Food Processing Center, University of Nebraska.

# Appendix

# In their own words...

A visual representation of the responses with actual quotes

## Why elderberry?

# Previous experience

"For over 40
years we started
making it
<elderberry
wine> and we
knew that this is
the kind of wine
that we want to
produce
commercially".

# Favorable trends

"People are
interested in
health, are
interested in good
value and are
interested in
something that
tastes good".

"There are many organizations that support local .... and these people are interested in nutraceuticals, fruits to eat that improve your health".

# Availability of supply

"It is available in the wild". "It was growing locally".

"We found a good source of elderberry".

# Tradition, nostalgia, folklore

"It was grandma's elderberry wine which you cannot get anymore because she's not around".

"A lot of people know about it, they say that their grandfather used to make it".

"It has a lot of folklore surrounding it " (Arsenic and Old Lace, Monty Python).

# Market opportunity

"..the products that have been developed and marketed in US are out of concentrate, expensive and taste bad".

"In regards to the influenza viruses I thought the market will be there"..

# Profitable product

"It is working and I am making a reasonable profit on it, so why not?".

#### Value added producer

A1: Value-added producers: Motivation to produce elderberry

### Why elderberry?

### Native plant

"Because they are native plants, they are extremely insect resistant, disease resistant; there are a few little problems, not many".

# Unique crop

"Fascination with a crop that not enough people are working with".

"It should be the most significant fruit grown in the US".

# Health benefits

"People know
that it has
health benefits,
some people
swear by it..."
"It is has many
health benefits"

# Can be grown sustainably

"I needed a crop that you grow organically, in riparian areas, where any fertilizer that I'd be using on the farm would be filtered up or down to the stream".

# Better compared to grapes

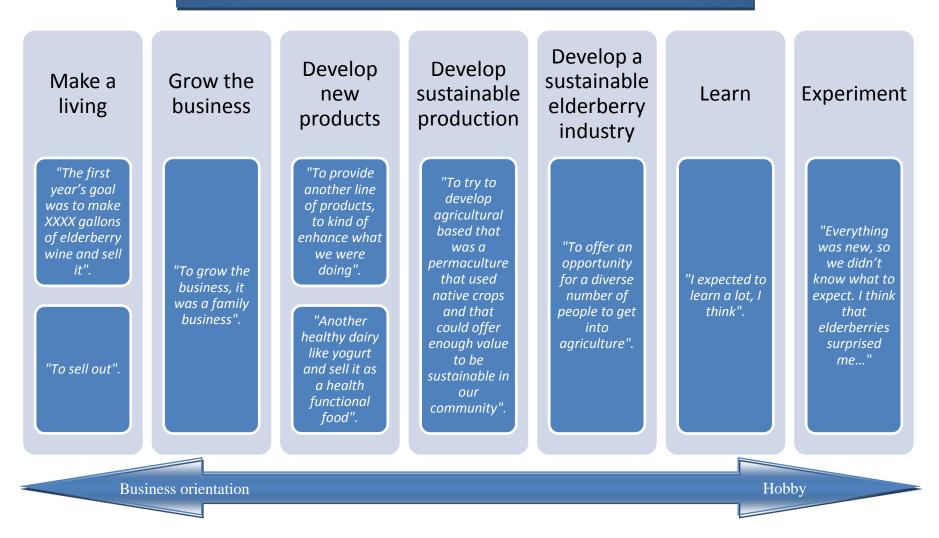
"An acre of elderberries would produce as much wine as 5 acres of grapes".

"I can grow it much cheaper than I can grow wine grapes".

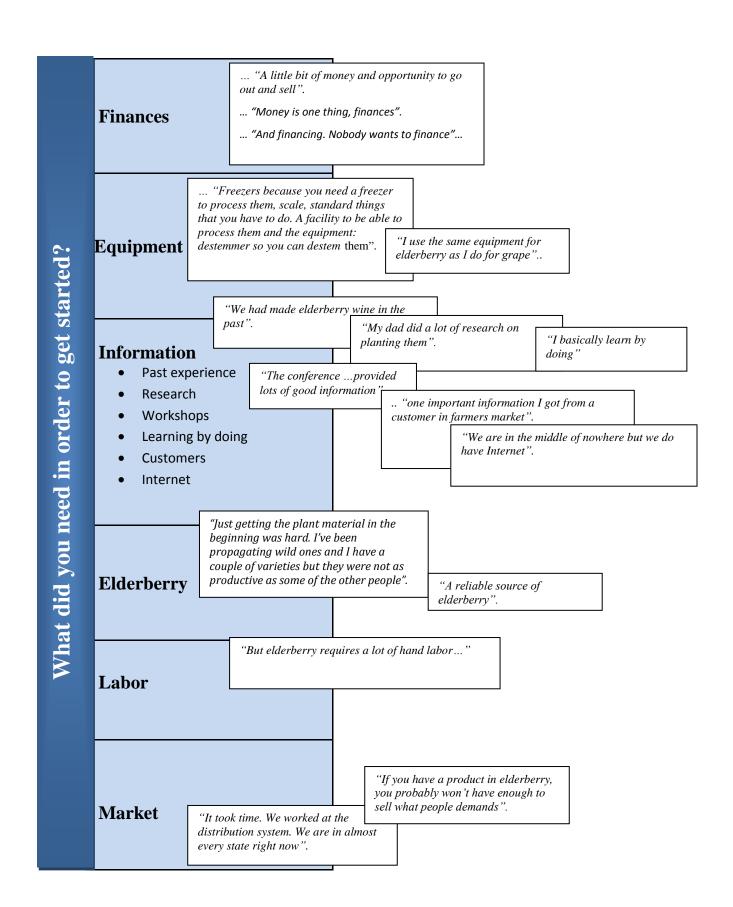
#### Elderberry grower

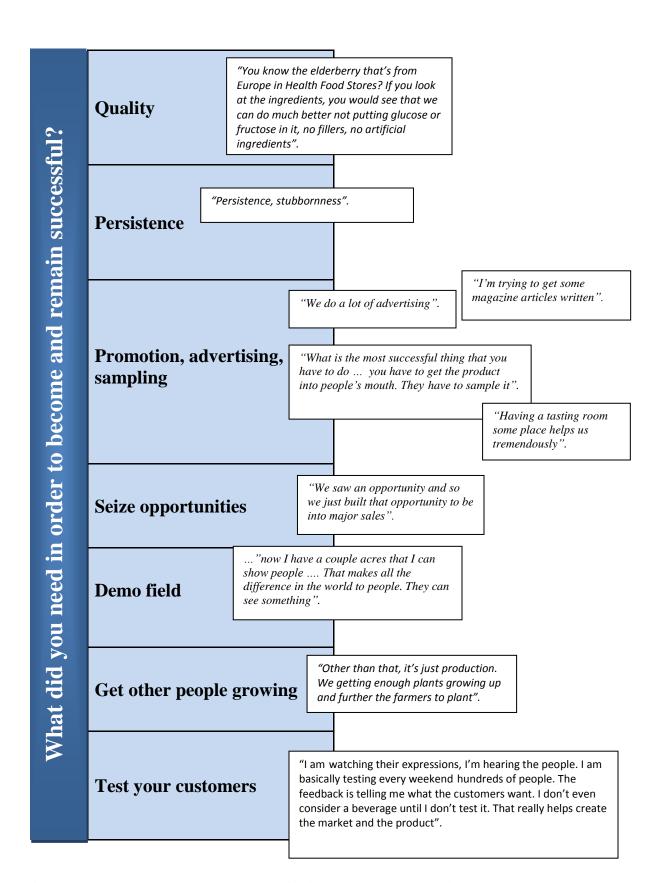
A2: Elderberry growers: Motivation to produce elderberry

## What were your expectations when you started?



A3: Respondents' expectations when starting an elderberry business





A5: How respondents became successful in an elderberry business

it's like putting in grapes. It takes a lot of money to invest". Personal finances "And there is no help. Banks don't even **Finances** know what elderberry is". Credit .. "another challenge was to get enough elderberry". Insufficient supply 'And one guy came up here with a pickup Inexperienced pickers load of sumac, which is poisonous". Supply Perishable supply "I need to find where to find plants with specifications Those were off in NY, they didn't seem like they will Sourcing plants work into my system, I needed local things". Plant growing "My plants had died out in the sun". Lack of info "The biggest challenge has been learning cultivation and production protocols". Bird damage "Elderberries are a difficult fruit too. A lot of people find it Labor intensive more work-intensive than what they want to do". Lack of equipment **Production** Challenges encountered "Growing is a business in itself, Pests capital intensive, labor intensive, and technology intensive" Harvesting ... "and the third year they were completely defoliated by something, I have no idea what". Lack of quality standards "It is very hard to produce a product when you don't know what the end result is, what the "Elderberry is a difficult wine to make". guy wants. But I don't know "You know, when it's no processing plant anybody that specifies **Processing** for a product that needs to be processed, elderberries". that's a huge limiting factor". Marketing "If only I can turn around the marketing and get a decent price on them". Sale Distribution system "Distributors claim that is not enough demand for wine for them to purchase our wine. On the other hand they don't want us to sell directly". "FDA regulations... Even though "We have been working with the legislators in there is a lot of clinical evidence, Policy, law, getting more winery friendly laws but with no about the health benefits of much success. We can't ship wine in state. We can regulations elderberries, we are not allowed to ship out of state only if the law in that state that say anything about them". allow wineries to ship into. You have to fight laws on different states". Prejudice towards grape wine "If you are not doing grape wine you are not really a winery". Prejudice towards "If it's not tobacco, corn or soy beans, it's hard commodity Other to get the attention of legislators". Industry not recognized "Your insecticides are listed for fruits. A lot of them didn't think about elderberries so even if you can use them in theory, you don't have label for them so in a commercial operation you cannot use them".

"It takes several thousand dollars per acre,

A6: Challenges encountered by respondents in establishing an elderberry business

### What is your vision for the future?

# Grow the business

"More wineries. In other states. ... We are trying to grow at a reasonable pace.
And we need to get into other markets... '

"We are growing fast..... I'm optimistic, we are still small in terms of food products but I think that the possibilities are pretty big".

# Develop new products

"In the future I would do different styles like a dry and a sweet <wine>, maybe something in between. I would also diversify in elderberry products, I would make elderberry juice or extract".

"My ideas are to roll out a number of elderberry based products, initially we are going to do some solely elderberry and then we'll do some elderberry integrated products, all under our label".

# Grow the industry

"With all the benefits that elderberry has, it has to go out. ... I am going to do my own little thing. It may take 20 years to be a notable industry, but I am going to be there and I am gonna do what I can".

"That's my goal, elderberry region, we'll have the plant for processing and we'll have a group of growers who own the plant. We'll have a product that is easy to have stabilized and the juice to sell".

### Stay the same

"Right now we are at the capacity .... and that's about what we can do without undergoing a big remodeling".

"We got a lot of

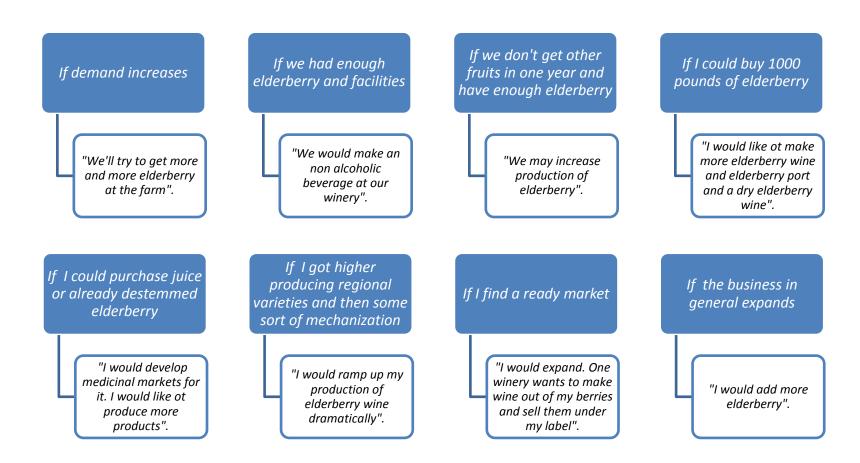
elderberry now, I
think we want to keep
the plantings that we
have, we do renew
them if the plants
drop down or
something like that,
with volunteers. We'll
just keep that up and
see how the wine
goes. It probably
could be a very good
product for us".

#### No vision

"I don't really have any vision to tell you the truth".

#### A7: Vision for the future for respondents with a clear vision

# What is your vision for the future? (vision depends on condition)



A8: Vision for the future which depends on certain conditions to be met

#### SUPPLY/SUPPLIERS

#### **SUPPLY**

#### PRODUCTS BOUGHT

# In general, limited Inconsistent quality

- -"I haven't had the opportunity to get any more elderberries that we had gotten. I even put an ad in the local paper for two weeks for people to pick elderberry and we would pay them per pound".
- -"I have never purchased any but that's largely because there is none available to be purchased that I know of".
- "There is no domestic supply, hardly".
- -"Less available, we need more than we can get, so shortages would be the trend".
- -Because of our success, people come to us, they want to grow for us, that's how we get growers. We are getting more and more and they are growing with us".

#### For wine making:

- -Grow their own
- -Buy fresh elderberries: with stems and destemmed; frozen elderberries: with stems and destemmed; concentrate from Europe
- -juice
- "You grow your own elderberries, you don't buy any elderberry you use. Yes, they are on our land, and I lease the land, and I own some of the land and we propagate".
- -"We purchase all from local. They're wild: shelterbelts. We de-stem them".
- -"We buy frozen elderberries, and they are destemmed".
- -"But the main supply is local and you only supplement with European concentrate. Yes, we supplement when we need to".

# For other value added products:

- --Grow own elderberries
  -Buy fresh elderberries: with
  stems and destemmed (limited
  supply, inconsistent quality);
  frozen elderberries: with stems
  and destemmed; concentrate
  from Europe (designed for food
  coloring, bad taste); juice.
- "The elderberries we grow, we don't sell commercially as fruit, we are utilizing them in our processing. I make elderberry jelly".
- -"European, mainly from Poland. I buy concentrate and frozen berries".

#### For nutraceutical products:

- -berries and concentrate from Europe (more research has been done on *Sambucus Nigra*)
- -flower domestic

- "We use juice and the one we use was brought from Germany. The flowers are domestic, the berries are European".
- -"Flowers harvested from the wild".

#### PRODUCTS SOLD

# ELDERBERRY PLANTS/FRUIT



### ELDERBERRY WINE



### ELDERBERRY VALUE ADDED



### ELDERBERRY NUTRACEUTICALS



- "Plants in pots; cuttings; seeds (dried elderberries)".
- "We sell plants, and we sell elderberry syrup".
- "I also sold some plants on the Internet".
- "I sold destemmed elderberries to a winery".
- "Sell dry flower, dry fruit and fresh fruit also to medicinal companies".
- "The bulk of what I am selling is for pies, or for jams or I sold to a specialty brewer, local winery".
- "Frozen berries".
- "Fresh elderberries, by the pound".

- "Wine with a little bit of jam on the side".
- "Elderberry wine".
- "Only one type of elderberry wine, really dry".
- We have six different elderberry wines, spiced wine, port wine, elderflower wine, elderberry blend wine. (70% of our wine is elderberry based)".
- "Good unique kind of wine".
- "We make a pure elderberry wine and an elderberry blend wine. And my wines range from dry to sweet".

- Elderberry vinegar, jelly, syrup, fudge, elderberry pies, barbeque sauces, vinaigrette salad dressing.
- Commercially packed elderberry syrup; carbonated beverage; syrup that basically has a little bit of chocolate in it; an elderberry beverage non sparkling.
- "I sell plants and we are making juice, syrup, cordial and elderberry apple juice blend. We are going to make jam, yogurt, ice cream and pie".
- Plants and juice.
- "Jelly, frozen elderberries, pancake syrup and wine is coming".

- "Elderberry juice; elderberry extract; Echinacea- elderberry product; elderberry syrup for children".
- "I have one order right now for bark and twigs, which are other byproducts".

A10: Elderberry products sold by interview respondents

#### MARKETING AREA

### **ELDERBERRY** FRUIT

### **ELDERBERRY** WINE

Direct to consumers

Other retail stores

### **ELDERBERRY** VALUE ADDED

### **ELDERBERRY** NUTRACEUTICAL

Nationwide - retailers. medicinal companies Nationwide – Internet Local – local winery Local – You pick, farmers market

Local, regional market

Internet

Distributor -> retail stores

Own store(s)

- -"I only sell at me store at the winery (gift shop)".
- "About 30% is in our tasting room, 50% is in retail stores across three states and about 20% is online".
- "90% retail and 10% wholesale. I retail in my four stores. We wholesale some wine to a distributor here in state".
- "Wholesale and retail. People come to our winery. We have a number of shops within 20 mile area. Internet sales".
- "99.9% is direct sales, at the winery. We sell about 40% retail at our winery and 60% distributed to other retailers. I don't distribute outside the state borders".

Direct to consumers

- Farm store (retail store)
- Farmers market

#### Wholesales

- Wholesale outlets
- Health food stores

Wholesale Direct to consumer Nationwide

- -"I direct sell to retailers and practitioners or medicine makers. I have a website, I make some sales but more from personal networking".
- Marketing area- nationally. -"Now we have a customer
- base of about 5000 families that visit us regularly. We do picking. And we do 3 sometimes 4 local farmers
- markets". -"Fresh berries to a winery"
- -Internet sales.

(local).

#### **Elderberry plants** nationwide

"I sell everywhere: WA, IA, OH, CO, IL, KS,NE, LA, VT, OR. TX. ME".

- -"We have a retail store on the farm; we do farmers market; we also wholesale our products to 20 wholesale outlets, mostly across the state".
- -"Health food stores and chains and people that want local products. We have a retail store and we sell to wholesalers and eventually we are going to be online".
- -"Mainly local and local chains. I sell under a local brand".
- -"I sell in farmers markets, and at the farm. My main buyers are just individual customers. People buy jam and frozen berries".
- -"I sell wholesale and retail. We are in half a dozen stores locally and in one chain food store".

- -"We sell to 10,000+ health food stores and about 13,000 health professionals around the country. We sell only wholesale, nationwide".
- -"Mainly is health food stores and distributors to health food stores nationwide and individuals on our website may be 10% of it".
- "The concentrate is about 70/30, 30% retail, 70% wholesale to health food stores. We have several natural medicinal companies that we supply concentrate to".

#### TRENDS IN DEMAND

#### **Plants**

- "I've nearly sold out of plants this year".
- "Business is blooming. I wholesale a lot of plants".

#### Wine

- "It seems that consumption on wine in general has increased. It seems to be a renewed interest in fruit wines especially in elderberry and blueberry. They get recognition in being health beneficial. These made a lots of people seek them".
- "The Internet for me is the biggest reason of increase, people can get on the internet, type in elderberry wine and come by the winery because of that. But it's still just a small niche market and I don't see it hugely in demand, but I do see it growing".

#### Value added products

• In terms of trends in demand, do you feel that people are increasingly seeking this kind of fruits like elderberry? - "I sold more this year than any other year, so I think so".

#### **Nutraceuticals**

- "Demand for elderberries? More than I can supply".
- "Trends are up, back in track with the recession, but the product is so healing, no wonder that people want to use it. And you may know about the trend that store sales are growing because people cannot afford to go to doctor".

#### **COMPETITORS**

#### ELDERBERRY GROWERS

### ELDERBERRY WINE MAKERS

# VALUE ADDED PRODUCERS

### ELDERBERRY NUTRACEUTICALS

No competition, high demand

- -"Nobody else is selling elderberry in my area. And I get contacts all over the country. And we have to turn them down most of the time".
- -"Anybody that is growing right now has a little niche market".
- -"There's a few people that have a couple acres in that grow a few thousand pounds and make some elderberry wine out of it, I mean, there really isn't very much".

No competition, wineries cooperate

- -"No really, I don't see much of elderberry wine produced in this region".
- -"There's virtually none. There are a couple of wineries on the East Coast that have some elderberry wine but they are small and they don't take it to anything else".
- -"There are 4 other wineries within 20 mile radius. Most of them only produce grape wines. I don't know if I should consider them competitors I consider they are beneficial. We have a grape festival and a wine festival each year. We, the four wineries in the area jointly organize these festivals".
  -"If we had 30 wineries making
- -"If we had 30 wineries making very good elderberry wine we will start to get more on the mainstream line".

No competition, niche markets

- -"At least from my perspective, there is nobody else selling elderberry products in my area and to my markets".
- -"I search the internet all the time but I don't see anybody out there with the products. A few people making syrup, a few people making jelly but nothing on any kind of scale".
- -"There is a group that has an elderberry jelly and they commercially pack it but no syrup that's what all they do elderberry jelly only. There is one place 45 minutes from here that is making elderberry jelly out of concentrate. It tastes like anything you buy in the store but it's nothing like using fresh fruit".
- "I would have to say no, I haven't found any others selling it commercially as we are".

Some competition from Europe and leading brands. Competitive advantages.

- -"I don't really consider this industry a competitive industry. We know that Sambucol is the leading product because they have the leading market for elder products. So it's not much other competition out there. I mean it's a lot of products, but not at the same level of Sambucol".
- -"The European products which are the leading sellers in the stores, are really inferior quality so it's really given U.S .companies an advantage".
- -"There are not competitors yet. The only competitors at this time are the Europeans".

# COMPETITORS COMPETITIVE ADVANTAGES

**PRICE** 

"But the driver here is that these are very economically priced".

**QUALITY** 

"I am a very high end high quality producer, I can supply you what you need, in the state that you need it, when you need

**TRACEABILITY** 

"Number 1 is the local product; and traceability".

CUSTOMER SERVICE

"We are really service oriented. And this is how we have to do it as a small company. These are things that help us move little by little into the marketplace".

FIRST IN THE MARKET

"I am reaping the benefits because nobody else is doing it. The industry is just embryonic, from growers to products".

BUSINESS CONCEPT

"I am small enough and diversified enough that I could switch gears and get something going".

**OPPORTUNITY** 

"I am surrounded by food manufacturers that would custom pack anything you have from juices to soft foods so it's not like I am a little guy and I need to build a factory to manufacture this, it already exists".

DEMONSTRATION SITE

"People come for elderberry. People say, we want to try your wines but we came here to see your elderberry".

**INTERNET** 

"If you Google elderberry we come up".

**A14: Competitive advantages** 

#### **SUBSTITUTES**

#### ELDERBERRY WINE

### ELDERBERRY JAM, JELLY

#### JUICE, SYRUP, CONCENTRATE

### CAPSULE, TABLETS, EXTRACT

Grape wine Fruit wines

Other berry/fruit jam, jelly

Other berry/fruit juice, syrup or concentrate. Imported syrups.

Capsule, tablets, extracts rich in flavonoids, antiviral or antihistamine properties.

### HOWEVER, ELDERBERRY HAS UNIQUE PROPERTIES

#### Health Benefits

- -"We have people that are firm believers that elderberry lowers their cholesterol. And they drink it medicinally every day".
- "It is not only the viral protective that it has in it but the natural antihistamine. People that suffer from allergies, it immediately takes care of that".
- "Elderberry is the healthiest thing you can put in a bottle".
- -"High antioxidant level. If you look at the ORAC value, only aronia and black raspberry are in the competitive range with it".

#### Flavor, taste

- -"There is no other fruit that tastes like elderberry. It's just the complexity and the richness, and the finish, it all comes together in an unique experience just from the flavor stand point".
- -"I think that elderberry has a unique flavor. They have the same price with other berry products so if pricewise people are making a choice of one berry over the other I think that they are going more on taste and personal experience in their purchases".
- -They all like the taste. And they are tired of just the Cabernet, Chardonnay taste. And they want something else".

### History, Tradition

- -"Elderberry has been used by centuries. It was used to improve the taste of grape wine".

  ""It's amazing I mean it's been
- "-It's amazing. I mean, it's been native; it's been useful, documented for almost 5000 years as man medicine".
- -"I get numerous stories from people, about how their mother used to make elderberry pie".
- -"Because many people come by and say that when they were kids, the granddaddy used to make elderberry wine. It I s so amazing to see how people get connected to elderberry in different ways".

#### Folklore, stories

- -"The number one for elderberry wine that makes it the most unique is Monthy Phyton. There is a line, and any time people see the elderberry wine label they refer to Monty Phyton because of the line. People just come laughing their heads off. And almost every single person that have seen Monthy Phyton would buy a bottle of wine".
- -"And the folklore around it, for me is the biggest factor maybe more than the health factor".
- -"People had a history of parents, grant parents that used the fruit so it was an immediate draw to our winery".

The report can be found online at www.centerforagroforestry.org/profit