A Case Study Series

PROFILES IN AGRICULTURAL ENTREPRENEURSHIP

IOWA SOY SPECIALTIES, LLC VINTON, IA

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Introduction

More than five years of efforts seeking to add value to agricultural production in Benton County, IA, resulted in the formation of Iowa Soy Specialties, LLC, in 1997. Today, Iowa Soy is housed in three buildings with over 18,000 square feet under roof on the north side of Vinton, IA. The company is actively expanding its soy product line around the globe, enjoying the burgeoning market for soy food products.

Three Benton County farmers are the principal investors and serve as the company's officers: Dave Van Steenhuyse (President), Homer Showman (Vice President), and Marlyn Jorgensen (Vice President). All three of the officers are involved in marketing and promotion of the product, yet each one has his own specialty. Van Steenhuyse is employed full-time with the company, directing its operation and marketing. Showman leads the technical product development and research. Jorgensen, a past American Soybean Association president, utilizes his experience and contacts in the soybean industry in his management, marketing, and public relations role.

The company's product line, size, and scope have grown much since its initial stock offering in 1998. This case will trace the growth and development of Iowa Soy's entry into the natural, organic, and soy foods markets over the past four years.

In addition to providing a model study for a successfully growing business which adds value to local farm production, Iowa Soy is also a success story for Iowa's programs assisting value-added businesses. Special attention will be given in this case to the role of Iowa's REVAMP and VAAPFAP programs. These programs provided substantial assistance in the capitalization of Iowa Soy. Finally, future growth strategies and potential for Iowa Soy will be summarized, focusing on the company's current trend of forming alliances and spinning off new companies.

Iowa Soy Specialties Products

Soy Flour and Soy Grits
A low-fat (<8%), high protein (>46%) flour is marketed into the baking industry and also used to make soy milk.

Textured Soy Protein (TSP)
Nearly 30 types of TSP containing 5-8% fat and 46-51% protein are used in a wide variety of applications, from ready-to-eat soy barbecue to ham flavored bits used in ham and eggs.

Ready-to-Eat Products
Soy rice nuggets and other ready-to-eat products are used in snacks, cereals, and energy foods.

Iowa Soy offers most of their products in organic and non-GMO product lines.

The Idea

In the early 1990s, an active Benton County Soybean Association began to investigate how more value could be added to agricultural production in the county. The association worked with the Benton County Development Commission to begin identifying possibilities for adding value to the county's production. One of the very first areas identified was contracting specialty grains, such as variety-specific soybeans and blue corn, for export. Benton County producers provided the impetus behind this specialty grain

Industry Focus: The Soy Foods Explosion

Iowa Soy Specialties is in one of the hottest segments of the food industry: soy. *U.S. News and World Report* reported in November 1999 that soy foods sales increased 35% in the previous year to $494 million. Four months later, the San Francisco-based market research firm SPINS reported that sales of soy products in mainstream grocery stores exploded by 45% for the year ended in November.

The surge in soy sales has come as more consumers realize soy's health benefits. When the FDA announced a new health claim allowance for soy in October of 1999, the mainstream media (including Oprah) picked up on the story almost immediately.

Products containing soy protein were now allowed to carry the claim "25 grams of soy protein a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease. A serving of (product name) provides ___ grams of soy protein." Consumer demand for soy products, which was already growing dramatically, is expected to continue to skyrocket as a result.

Growth in the soy products industry has been led by liquid products–soy milk. Soyatech's *The Bluebook Update*, an industry trade publication, estimates growth in liquid soy product sales to push 40% during recent years.

Industry projections for overall soy products increase hover around the 20-30% mark during coming years. Much of this increase comes as soy foods move from their traditional natural foods markets into mainline groceries. With this demand and the growing market for non-GMO soy products, more soy niches are sure to arise for smaller companies like Iowa Soy Specialties.

contracting effort, resulting in the formation of the Iowa Producers Cooperative in 1993.

The Iowa Producers Cooperative was essentially a clearinghouse that sorted bad specialty grain contracts from good ones. It charged producers a fee based on their acreage to use the cooperative's services. The organization was successful; however, commodities are relatively easy to contract. Margins began to tighten as more producers across the country began to contract grain for export. The original Benton County group still felt that they needed to do more to add value to their crops.

In 1995, the group started to explore other possibilities for adding value to their crops. They investigated setting up a cooperative swine feeding unit; a cooperative cattle unit was already in place in the county. They considered establishing their own seed cleaning and processing facility. Amidst all the ideas investigated, however, Benton County producers identified two areas as having long term potential: ethanol production and soy processing.

The producers who were actively investigating the possibility of soybean processing and ethanol production had either founded or were involved in the Iowa Producers Cooperative. The cooperative felt that it should only continue its original role as a specialty grains contract clearinghouse, so it gave freedom to people interested in investigating potential for ethanol and soy processing to form new groups.

Both groups were eventually successful in their efforts. In addition to the eventual formation of Iowa Soy Specialties, an ethanol plant and new feedlot opened in the southern part of Benton County at the beginning of 2000 under the name of Sunrise BEIFF Feedlot, LLC.

Gathering Information

Jorgensen, Van Steenhuyse, and Showman were the key individuals behind the initial effort to find more soybean processing opportunities in 1995. The three farmers went all over the country during the next 18 months to gather information and tour small-scale soy processing facilities. Their travels took them to production and research facilities throughout the Midwest and at Texas A&M. They also completed initial market research at this time, traveling to the Natural Foods Show in Anaheim, CA, to gather product ideas. During this period, they also talked to a variety of brokers and others in the food business.

It was apparent to the three producers that there was a potential market for products processed from Benton County soybeans. Their background in the soybean industry made them aware that soy products contained many health benefits that had not yet been discovered by American consumers. The potential for soy market growth, in addition to the explosive growth in the natural foods industry, offered a promising outlook for a company that would process soybeans into something that could be readily consumed.

After gathering information, the three decided to form a limited liability company as a "shell" for a soy processor in Benton County. They wanted people to "realize the health benefits of soy without having to eat tofu," and their original goal was to make and sell soy flour as a baking ingredient

Industry Focus: Natural and Health Food Markets

The most rapidly growing segment of the U.S. grocery industry in the 1990s was the natural and health food markets. According to *Natural Foods Merchandiser,* sales in the natural foods industry grew at an explosive 20% per year from 1992-1997. Leading the growth were organic food sales (Plank 2000).

Growth in the natural products industry has slowed down as more firms (especially larger, traditional grocery stores) expand their product lines to include more natural and organic foods. However, organic sales still maintain a breakneck pace. A recent article in *Natural Foods Merchandiser* estimates the organic market grew at 17-22% in 1999.

1999 reports by the Private Label Manufacturers and other food industry groups indicate that organic product sales will continue to increase. Sales in the organics market should reach $6.6 billion in 2000 and are expected to increase by 20% annually over the next several years. The demand for non-GMO food products is also expected to increase.

and provide soy oil for use by large food companies. They would use a mechanical process to extrude the oil from the soybeans. This process would give their product qualities different and desirable over the chemically processed product which dominated the soy flour market.

The goals of the partners expanded and adapted to the business' growth while branching out into more market niches. The business also encountered some production challenges that have affected how rapidly its products have entered the market. The progression of Iowa Soy's business idea will now continue to be traced through a discussion of how the company was initially financed.

Financing

Jorgensen, Showman, and Van Steenhuyse knew from the start that they would need outside capital to start up the company. There were several initial sources of capital for the project in addition to the capital invested by the three farmers:

- Local LLC investors
- Iowa VAAPFAP Project Creation Grant
- Iowa VAAPFAP grant/loan
- USDA Rural Enterprise Development Loan

Program Focus: REVAMP AND VAAPFAP

Iowa's Rural Economic Value-Added Mentoring Program (REVAMP) and the Value Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) trace their existence back to 1991. In 1991, the Office of Renewable Fuels and Co-Products (ORFAC) was established by the Iowa Department of Agriculture and Land Stewardship. The purpose was to "promote and advance ethanol and other renewable fuels made from agricultural commodities grown in Iowa (March 1, 2000 ORFAC Report)."

A couple of awards were made to businesses in the renewable fuels industry in 1991 to see if a value-added grant/loan program would work. It became apparent that there was a place for such a program. It was also apparent that the program would need specific administration. Thus, the Iowa legislature appropriated $3.65 million in 1994 to establish a value-added program in Iowa, VAAPFAP. VAAPFAP's purpose was to not only assist ethanol processing efforts, but also other value-added efforts in agricultural processing. VAAPFAP is administered through the Iowa Department of Economic Development.

The Iowa legislature also appropriated $350,000 in 1994 for an Iowa Renewable Fuels Account within ORFAC. A portion of these funds can be used to provide technical and business planning assistance. The resources were earmarked for businesses who were developing renewable fuel products, as well as businesses involved in the innovative production and processing of other value-added products. The REVAMP program is administered through the ORFAC office in the Iowa Department of Agriculture and Land Stewardship.

During the past six years, the REVAMP and VAAPFAP programs have worked closely together to assist value-added agribusinesses in Iowa. Not everyone who uses REVAMP to write a business plan goes to VAAPFAP; at the same time, not everyone who acquires a grant or loan from VAAPFAP has used REVAMP's help. Nonetheless, the two programs often work hand-in-hand to assist startup value-added agribusinesses in Iowa.

This section will pay particular attention to Iowa Soy's utilization of Iowa programs assisting businesses involved in value-added processing.

Business Formation

The three farmers chose to form an LLC to pursue their business idea. The LLC was the business structure that seemed to best suit their situation and business goals. They contributed the necessary start-up capital and formed the limited liability corporation's shell. They then sought to obtain additional capital financing. At this time, the company was able to utilize Iowa's REVAMP and VAAPFAP programs which assist innovative startup value-added processors.

In March 1997, Iowa Soy was awarded a Project Creation Assistance grant of $24,000. The Project Creation Assistance grants were a recently created segment of Iowa's Value Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP). The grants allotted funds towards the creation of value-added agricultural processors in Iowa. This grant allowed the company to begin pilot production and process experimentation for soy flour.

The Project Creation Assistance Grant provided key research and development capital for Iowa Soy. During the following months, product was developed and a business plan wasformed. While Iowa Soy utilized the REVAMP program (see sidebar) to assist in writing the business plan, the fledgling company had already done a significant amount of business planning research on its own. The REVAMP application was quickly approved, and the business plan was written. The Project Creation Assistance funds had provided solid information on the processing which would become the cornerstone of Iowa Soy's business.

The three partners had been planning all along for a public stock offering. However, they suspected that the first stock offering (called a "unit offering" for an LLC) would probably not sell out. Therefore, they applied for and were awarded other sources of capital, including a $200,000 VAAPFAP loan/grant, before the initial stock offering.

The VAAPFAP award was originally a $140,000 forgivable loan and a $60,000 loan. However, Iowa Soy planned to use the VAAPFAP funds to support its application for a USDA Rural Business Development loan. Since a forgivable loan is not considered as equity under the USDA loan criteria, the VAAPFAP office redefined the forgivable loan as an "equity grant." This enabled Iowa Soy to meet the criteria for the USDA loan, which the company successfully obtained. The VAAPFAP and USDA awards enabled Iowa Soy to go into the unit offering with a significant startup capital base and additional credibility for the firm.

One of the most important reasons for the choice of an LLC as opposed to a regular corporation was that an LLC could help minimize startup costs for the company. In Iowa, an LLC that forms with an initial capital offering of less than $1 million and fewer than 35 investors faces significant savings in legal formation costs. This is due to avoiding additional SEC regulations for companies that begin with a lower stock offering. This in turn results in much less paperwork and lower attorney's fees. Having obtained good legal counsel

Program Focus: REVAMP

REVAMP is directed by Pat Paustian of the Iowa Department of Agriculture and Land Stewardship's Office of Renewable Fuels and Co-Products. The program specifically assists business plan formulation for businesses engaged in innovative processing of agricultural products and renewable fuels.

The program works closely with Iowa's network of regional SBDC offices. After Paustian approves a REVAMP application, the business is usually granted $1,000. This money is used by the regional SBDC to support the costs for its staff or other consultants to prepare a business plan. The $1,000 is often more than enough money to cover the cost of the plan, but more funds up to $24,000 may be granted. According to ORFAC's March 2000 Semi-Annual Report, REVAMP had spent or obligated about $73,000 to Iowa businesses for the first half of the 2000 fiscal year.

Paustian estimates that over 75 percent of the businesses that apply for REVAMP assistance follow through to complete a business plan. The most common reason for a business not following through is usually the entrepreneur's lack of available capital for the project, lack of commitment to the project, or the applicant may determine the project is not feasible.

Many of the companies that use REVAMP pursue VAAPFAP funding, but participation in REVAMP is by no means an obligation or a guarantee for VAAPFAP funds. However, Paustian points to Iowa Soy Specialties as a poster-perfect example of success that results when a company brings sound business strategy and established equity to the REVAMP/VAAPFAP application process.

"Just look at all the companies that are spinning off of Iowa Soy ideas," she says, noting the formation of Specialty Proteins and WholeSoy Foods.

from the beginning of their idea, Jorgensen, Showman, and Van Steenhuyse decided to minimize the paperwork and additional legal fees which would result from a greater stock offering and go with an initial stock offering of less than $1 million.

Iowa Soy's initial stock offering was bought by 33 local investors. Even with the VAAPFAP grant/loan, the USDA loan, and the stock offering, the company faced an almost immediate need for additional operating capital. This was primarily due to the company's choice of an initial stock offering less than $1 million. However, there was another significant factor hampering the availability of operating funds: marketing.

One restriction on the VAAPFAP and USDA monies was that they could not be used for marketing expenses. Marketing expenses were quickly becoming a large part of Iowa Soy's operating budget at the time they received these awards because product development was progressing steadily. Larger amounts of funds had to be used for expensive marketing activities such as advertising in industry trade journals, attending trade shows, and maintaining a web site.

Another smaller but related problem was that it was sometimes hard to justify the expense of introducing new products into the food and baking industry to stockholders. Many of the local stockholders were not familiar with the expense involved in new product introduction, so Iowa Soy's management had to do some stockholder education in the early stages of the company.

Iowa Soy was able to easily meet this need for marketing cash by obtaining a line of credit from a local bank. Cases such as Iowa Soy have prompted Iowa and U.S. officials to at least reconsider the restrictions placed on marketing expenditures in their value-added and rural business loan programs.

Because Iowa Soy has formed an alliance with two additional LLCs, the management has realized that there may have been some benefit to initially investing in a larger LLC structure. The rapid growth of the market, however, and the addition of these marketing and processing partnerships could probably not have been anticipated to the extent in which they occurred.

Program Focus: VAAPFAP

VAAPFAP is directed by Joe Jones of Iowa's Department of Economic Development. According to its April 2000 Report, the program has obligated more than $21 million to Iowa businesses since its first award to a tofu bratwurst project in November 1994. While the program receives many of its applications from businesses who have used REVAMP, many companies that have never used REVAMP to formulate their business plan apply for and are awarded VAAPFAP funding.

VAAPFAP offers a combination of grants, loans, and forgivable loans not exceeding half of the project's total budget. The company submits the business plan and completed VAAPFAP application to Jones' office, where applications are due the 20th of each month.

The VAAPFAP applications are then reviewed internally by Jones and his staff. The business plans are also reviewed for quality and scope by the director of the Iowa State University Pappajohn Center for Entrepreneurship. The program staff then makes its recommendations to the state VAAPFAP review committee. This committee is composed of 10 unpaid members, half appointed by the Iowa Secretary of Agriculture and half appointed by the Iowa Director of the Department of Economic Development (DED).

Once the committee has reviewed the applications, its recommendations are made to the Iowa DED director who gives them final approval. The program staff then prepare the necessary documentation, depending on whether the award is a grant, loan, or forgivable loan.

After nearly 6 years of operation, VAAPFAP can begin to be evaluated for its success. Administrators estimate that the program has a 60% success rate to date in lending money to startup value added processors–businesses that would have difficulty obtaining funding anywhere else.

"We're high risk money, no doubt about that," says Jones. "If our success rate stays above 50%, I consider us being very, very successful."

"If we would have asked more questions at the outset," notes one of the partners, "we might have been better prepared (to deal with financing the needs of growth)." To date, though, Iowa Soy has been able to meet its needs in generating the capital needed to successfully market new products.

These needs will be among those addressed in the discussion of how Iowa Soy is managing growth. But the story of the company's development is now continued shortly after the company had obtained most of its initial capitalization and was beginning to make inroads on the soy products market.

Process Development

A Different Process

Iowa Soy had decided to pursue a number of ways to differentiate itself from other soy processors. The most drastic difference in the products it would be producing would be in the process used to extract the oil.

It is necessary to extract soybean oil from the bean in order to produce soy flour and soybean oil. This is most commonly accomplished with a chemical process using hexane. This process totally removes all the oil from the beans. The oil is then refined and the solids are processed into a variety of products.

Iowa Soy, however, had decided to use a mechanical process to extract the oil from the beans. Not only does the mechanical process avoid using chemical extraction–an important selling point in the natural foods industry–but it also leaves about 6% fat in the flour. This slight fat content adds a tasteful "nutty" flavor to the flour which most consumers enjoy.

A major problem Iowa Soy encountered was that no one had ever taken the equipment they were using–from the livestock feeds industry–and tried to produce a food grade product on even a small plant scale. Led by Showman, the partners had to test, tinker, and tweak the equipment for about a year before they got the products they wanted. Even a slight change to the equipment can change the protein dispersal index (PDI) of the flour, which is essential to determining the end use of the product. It took about a year of experimentation to get the products and processes and nutritional data to all match up.

The key partner in the product development process was Homer Showman. Showman had solid background experience in chemistry and a knack for new product development. He led most of the product development, which occurred right at the Vinton plant. The partners also worked closely with Larry Johnson at the Center for Crop Utilization Research (CCUR) at Iowa State University. Johnson and his staff were especially helpful in validating the nutritional results of Iowa Soy's processing. Iowa Soy continues to work closely with CCUR as they explore research into the further refinement of their soy oil product.

Process Focus: Dry Extrusion

Iowa Soy has adapted the dry extrusion process from the feed industry to produce its soy products. This process, which allows for the removal of up to 75% of the oil, has been used for years in the livestock feeds industry. Later, it was refined for the human food industry.

In a typical mechanical extrusion process, soybeans are run through a series of extruders and horizontal screw presses. This machine is patented by Insta-Pro International, a Des Moines, IA company. One benefit of dry extrusion is the chemical composition of the resultant oil.

In contrast to the oil obtained by a chemical extraction process using hexane, dry extruded oil has an extremely high level of tocopherols. Tocopherols are natural anti-oxidants contained in soybeans.

High tocopherol levels make the oil extremely stable. For this reason mechanically extruded oil, unlike chemically extruded oil, will not go rancid for months. Iowa Soy is currently pursuing research into small-scale refinement of this oil.

All three of the principal partners were beginning to sell the soy flour while they were experimenting with the exact processing of their product. Developing this market also presented obstacles to overcome.

Market Development

A New Product and New Company

Another problem Iowa Soy ran into was cracking into the baking ingredient market. Their soy flour was different from any other product on the market. People were familiar with the totally defatted flour widely offered by larger companies such as ADM and Cargill. They had also seen a full-fat flour which is used in the browning process in the baking industry.

The low-fat, high protein flour from Iowa Soy was different than either of these products. And, like introducing any new food product, it was difficult to crack into the market.

"We basically had to go out and educate the industry about what the difference was," says Jorgensen.

The fact that Iowa Soy was a new, startup company did not seem to aid its entry into the large-company baking products market. The partners found that it was difficult to find farm-to-food industry marketing experts who knew who the right people a company such as Iowa Soy could contact at larger food companies. The response of several larger prospects to the new company was often equivalent to "come and see us again in three years if you're still in business."

If Iowa Soy was able to get its foot in the door of a large company, its products would then have to be run through the larger company's own research and development testing. The research would often confirm Iowa Soy products to be superior; but changing a product formulation is expensive and large companies often cannot justify the expense. Iowa Soy points to these factors, especially the difficulty in finding farm-to-food industry marketing expertise, as those which made it initially difficult for the company to land larger accounts.

First Customers

Iowa Soy had begun advertising their product even before they started production. One of the first things they did was establish a web site. They also advertised in the Soy Blue Book, the trade publication of the soy industry. Thus, Iowa Soy was receiving inquiries about its product before the plant was in production.

The company's first customers were testimonies to the fact that their initial marketing efforts were working. Using some of their existing contacts and a few food brokers, their first soy flour customers came from both U.S. coasts and abroad. An east coast company purchased the flour to make soy milk which was in turn used to make soy cheese; a California customer used the flour in a snack cracker; and flour was exported to a Turkish customer who was making soy flour paste.

Educating the Brokers

Like other food ingredient companies, Iowa Soy uses food brokers as a primary distribution mechanism for its products. As the market for Iowa Soy's products expanded, especially when the company introduced its non-GMO line of products, the company found itself in a quandary. Its flour was listed in the broker catalogs right beside the large-scale soy flour of the Cargills and ADMs who produced soy flour using the hexane extraction process. Due to obvious economies of scale, soy flour produced by these agribusiness giants wholesales for markedly less than Iowa Soy's flour.

But Iowa Soy's product was different than the other products on the market. It was low fat and high protein. It was made by a company that could control the product flow right from the farm and could tailor its products to certain niches. So Jorgensen, Showman, and Van Steenhuyse began to interact personally with the brokers and educate them about the differences in their product. Knowledge of these differences was essential for brokers to understand how Iowa Soy's flour could better meet the needs of its customers.

Food brokers for the natural foods industry are concentrated on the east and west coasts. There is also a significant concentration in the Minneapolis/Chicago area, which is in closer proximity to Iowa Soy's Vinton, IA, location. The three principals began to travel to these areas and do training sessions–including baking demonstrations–to show the

New Organic Product Introduction

New food products, especially baking ingredients, are tough to introduce. Although the natural and health foods market only comprises about 5% of US food purchases, competition there is still tough and new product introduction is difficult and expensive. New food product introductions across the food industry have dropped substantially in recent years. According to a USDA report (Gallo 1999), new food product introductions in 1998 were 35% lower than in 1995.

Amid this decline, however, introductions of organic products have actually exploded. According to the 1999 USDA report, *New Product News* reported the introduction of products labeled "organic" was 55% greater in 1998 than in 1995. Market growth in the organic foods sector has apparently been great enough to justify the expense and difficulty of introducing new foods.

Foods which emphasize positive nutrients have had a much easier time garnering the limited shelf space in both retail stores and distribution warehouses. While new foods introduction is by no means an easy task, the explosive growth in the organic foods industry presently appears to offer a more attractive market for companies considering the introduction of a new product.

Going into 2000, the organic market is by no means slowing down. According to one executive of a Midwestern organic grain processor, interest in organics at the May 2000 Food Merchandising Institute show in Chicago was greater than ever.

difference in Iowa Soy's product. In addition, they would go with the brokers to visit companies who were potential customers for their products. Iowa Soy would show what their products were, emphasizing the difference between Iowa Soy flour and other flour. Slowly, both brokers and companies began to recognize the distinctives of Iowa Soy's flour.

One of the distinctives of Iowa Soy's production has been its establishment of a non-GMO product line. The company's self-regulating restrictions for this product line will be among those examined during the discussion of regulations.

Regulations

Concern over genetically modified organisms (GMOs) has opened up a whole new niche for Iowa Soy's products. They have developed three product lines: a certified organic line; a self-certified non-GMO line; and a standard line. The standard line is still non-GMO but does not provide the paper trail for the customer that a product from the self-certified non-GMO line does.

In addition to normal food industry standards for processing food products, Iowa Soy faces the intense organic regulation process. It also self-imposes a system to insure the identity of its non-GMO product line.

The Organic Audit Process

Iowa Soy Specialties uses two independent organic certifiers to maintain its organic certification. There are over 30 private organic certifiers currently operating in the United States. Many states also offer on-farm organic certification programs. Both public and private certification agencies operate under the same set of organic certification standards.

An inspection by an organic certification agency is an intense process. First, the inspector picks an invoice at random from the company's files. Everything about that particular invoice is checked to ensure it is in order.

The lot number from the invoice is then traced back through the company's system. The auditor makes sure that the lot number is the same as the lot number of the incoming product. Finally, the organic certification of the farm or storage facility where the company obtained the product from is verified.

Non-GMO Food Claims

The commercial introduction of Roundup Ready soybeans in 1996 led to an uproar of concern about environmental and health side effects of genetically modified (GMO) crops. This uproar has been especially pronounced in Europe–a significant concern for companies like Iowa Soy Specialties who are involved in exporting some products.

Standards are not in place for making non-GMO claims on food products. Companies like Iowa Soy Specialties are thus forced to do their own policing to ensure the integrity of their product.

According to *Successful Farming*, the market for crop genetic testing is estimated to double from its current level of $10 million over the next three to five years. There are a number of tools that can help Iowa Soy determine whether crops show any signs of genetic modification. A recent article in Soyatech's *Bluebook Update* recently summarized the different tests being used in the industry. These tests range from a simple protein analysis which can easily be done on the farm to a full DNA lab analysis (Froding & Sigler 2000).

This self-policing by soy processors is the only guarantee for product consistency that can be made. Because there are no global or even domestic standards for a non-GMO product claim, such a claim could mean different testing procedures. Soy food industry leaders are quick to surmise that some sort of standard will need to be soon set in place so consumers and producers alike will know exactly what a claim stating "Contains no genetically modified organisms" means.

Non-GMO

Although there is some discussion of what a universal "non-GMO standard" might look like, there is no current standard in the food industry. Therefore, Iowa Soy has had to be self-regulating in this area–all the way from the farm to the finished product. The paper trail that Iowa Soy provides buyers of its "Non-GMO" product line takes time to prepare, but results in a higher value product.

The non-GMO paper trail begins at the farm. Iowa Soy requires producers selling soybeans that will be used for non-GMO uses to provide a certificate from the seed company certifying that the seed used was not a genetically modified line. It also requires testing the seed before it is actually planted to again certify that the seed is not GMO.

The producer provides certification that the non-GMO seed was planted and harvested separately from any GMO soybeans. If the soybeans have been stored on the farm, the producer also certifies that they were stored separately from any GMO crops.

Iowa Soy tests the soybeans when they arrive to the plant and again provide this certification of non-GMO status. The "certified" non-GMO soybeans are then kept separate from the organic and standard product lines throughout processing.

The company did not anticipate demand for a non-GMO product line when it began operation in 1997. Iowa Soy's size and access to production of organic and non-GMO soybeans has allowed the company to carve out a niche for non-GMO products. This will allow the company to meet an onslaught of demand for products that are "free" of genetic modification.

Organics
Iowa Soy's self-regulating non-GMO process is similar to the organic certification process (see sidebar). Standards for organic certification are uniform across the country, and Iowa Soy is certified by two independent organic certification agencies. These agencies periodically audit the company's books and inspect the plant to ensure that organic standards are being met.

Like Iowa Soy's self-imposed non-GMO regulations, organic certification requires meticulous bookkeeping. It also requires more management time in the soybean processing area. For example, there is a series of rodent traps throughout the processing facility. These must be inspected daily as rodent pests are trapped and disposed of by "organic" means rather than poisoned.

The best strategy Iowa Soy utilized in beginning the organic certification process was to talk to people who had already been there. These included other food processors who were certified organic. In addition, Larry Johnson of Iowa State University's Center for Crops Utilization Research and Jerry DeWitt, Iowa State's extension coordinator for sustainable agriculture, also offered their expertise to the company throughout this process.

Also Certified Kosher
Iowa Soy is also certified kosher. The kosher certification is not so much one to allow entry into a niche market. Rather, it is viewed as a symbol of quality in the baking industry. While all these regulations and certifications lead to more administration and management, they are essential for the company to continue marketing a consistently high-quality product into its selected market niches.

Managing Growth

Iowa Soy recognized in mid-1999 that it was not selling enough flour to really make the plant run efficiently. The company had been in full production for about 18 months, and it realized that the logical solution to maximizing production potential was to extend operations to the next step of soy processing. The question the company asked was this: what are the largest uses of our soy flour? The answers were textured soy protein (TSP) and soy milk.

Forming Partnerships and New Companies
The company recognized it was not large enough to establish both soy milk and textured soy protein production. Consequently, the strategy chosen by the company has been to form alliances and partnerships with other companies to manufacture these products. Iowa Soy became half-partner in Specialty Proteins, LLC, a company which manufactures the line of textured soy proteins sold by Iowa Soy. The other partner in Specialty Proteins, LLC, is the company which makes the equipment used in producing textured soy protein. Production is presently well underway. To enter the soy milk market, Iowa Soy aligned itself with a Minnesota company and soy milk producer. Production there has not yet begun due to a buyout and restructuring of the Minnesota company. Most recently, Iowa Soy has formed an alliance with WholeSoy Foods. WholeSoy is an LLC headquartered in Des Moines. It will market new soyfood products

"Spin-Off"Companies from Iowa Soy

Specialty Proteins, LLC

- *Formed in 1999 in partnership with company that manufactures equipment used to make textured soy protein.*
- *Startup operating budget: $900,000*

WholeSoy Foods

- *Formed in the spring of 2000 to market new soy food under the brand name "Heartland Fields.*
- *Startup operating budget: $3.9 million*

manufactured by Iowa Soy under the "Heartland Fields" brand name. WholeSoy Foods will also do the bulk of the marketing for Iowa Soy's products, which currently include a ready-to-eat soy barbecue, snack chips, soy flour mixtures, and textured soy protein.

According to a report from the Iowa Department of Economic Development, WholeSoy was also the recipient of a $200,000 VAAPFAP package to help support a $3.9 million budget. Those familiar with the soyfoods industry have optimistic outlooks for WholeSoy, which is armed with a promising product and a savvy marketing strategy.

Iowa Soy Specialties Growth

1991	Benton County farmers begin investigating options for adding value to county production
1993	IA Producers Cooperative established
1995	Benton County group starts investigating additional soybean processing opportunities
1997	Jorgensen, Showman, and Van Steenhuyse form Iowa Soy Specialties, LLC
Mar. 1997	Company awarded IA Project Creation assistance matching grant to begin pilot production of Soy Flour
Aug. 1997	IA Soy receives $200,000 VAAPFAP award. Allows company leverage for additional capitalization efforts
1998	Initial stock drive
	Product development continues with product going into both feed and food industries
April 1999	Forms Specialty Proteins LLC to manufacture TSP from soy flour
Spring 2000	Offers second stock offering to finance new marketing company
	IA Soy forms an alliance with WholeSoy Foods marketing firm
Summer 2000	Enters into consumer retail market with a fully cooked, microwaveable soy barbecue product.

Hy-Vee Alliance

Iowa Soy and WholeSoy Foods entered a marketing agreement with Hy-Vee grocery stores in June of 2000. Hy-Vee, one of the top 20 supermarket chains in the nation, operates 200 stores in seven Midwestern states. WholeSoy Foods negotiated an agreement with Hy-Vee to sell the grocery store soy flour and provide the chain with a soy cookie recipe to be used in its bakeries. In addition, Hy-Vee is also preparing to test a bulk Iowa Soy "sweet and spicy" textured soy protein product in its stores.

This alliance fulfills Iowa Soy's goal to continue to find new markets and uses for it basic products. A similar arrangement also occurred in the summer of 2000 with Iowa regional groceries Fareway and Dahl's. Other negotiations with larger regional grocery chains are ongoing.

Depending on the long-term success of the soy cookie deal in grocery bakeries, the Iowa Soy plant in Vinton may have to add a second full labor shift. They were able to run one shift with part-time labor hired when loading out product as of the summer of 2000.

Sales and Service Expertise

As Iowa Soy's products gain national distribution, it becomes increasingly important to maintain personal contact with the brokers and others who are using their product. It also becomes necessary to have personnel who can work with companies who are using their products in the manufacture of other food products. Up to this point, Showman has handled most of the technical requests; however, for him to field every question about how Iowa Soy's products can be used and how the company's 20-25 textured soy protein products react under certain conditions is impossible.

Iowa Soy simply can't develop all the products possible from its soy flour. Consequently, the company continues to form alliances with other companies who are using their product. They point to a recent alliance with a company now producing a soy/rice cake (and soon a chocolate covered soy/rice cake) using Iowa Soy products as the soy component. Another company is producing a cereal using Iowa Soy ingredients, while pepperoni flavored TSP will be used by other companies on vegetarian pizzas.

Finding personnel qualified to handle service to these companies, as well as to sift through Iowa Soy's food broker

customers, is a difficult task. In addition, another person on the company's eight-person payroll adds a significant expense for any young company. These considerations present substantial challenges as Iowa Soy expands its personnel base.

Research and Development

Flour/TSP

Iowa Soy's size allows it to tailor the line of 20-25 TSP products to meet individual needs of companies. Different TSP products are manufactured from flour with different protein dispersal indices. These products react differently to different temperatures, and have different absorbtion rates. When a company wants to use a TSP product in a food product, Iowa Soy has to know which of its flour products will most likely be the most suitable. Research has to continue to identify various properties of the variety of TSP products made from Iowa Soy flour.

Soy Oil

Even with its line of soy products, Iowa Soy still has another product use in mind: soy oil. Because most soy oil is extracted using a chemical method, there is very little basic research on how to refine the "cold-pressed" oil extracted mechanically. The cold-pressed oil initially appears to have some better benefits and qualities than other soy oil–a higher level of tocopherols and a longer shelf life.

Iowa Soy is still in search of perfecting a natural process to refine the oil. Research is currently under way at Iowa State University's Center for Crops Utilization Research to define a natural process to refine the cold pressed oil. When such a product is realized, Iowa Soy will essentially have a whole new product to sell. This product should offer a good addition to the current line of tasteful and healthy soy products and baking ingredients the company is marketing.

Conclusion

Iowa Soy Specialties, LLC, is a model of agricultural entrepreneurship which has successfully followed through on developing an initial idea, dealing with appropriate regulations, developing the product market, and managing business growth. Iowa Soy is also an example of how state facilitating programs like Iowa's REVAMP and VAAPFAP can help a company obtain financing for its project.

Since its inception, Iowa Soy Specialties, LLC, has relied on its innovative ideas and its flexible size to capture different niches in the baking ingredients and foods market. This goal remains unchanged as the company forms alliances and partnerships with different companies, seeks new uses for its products, and works toward a natural oil-refinement process. Vice President Jorgensen summarizes the company's general strategy in a sentence:

"Keeping aware of what the niches are, how they develop, and figuring out what we can do to fill them."

For Iowa Soy Specialties in Vinton, IA, this is a promising strategy for continued future growth.

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