



SPROUTING NEW TREE NUT BUSINESSES IN THE MIDWEST: Five case studies



Prepared by the UW-Madison Center for Integrated Agricultural Systems

Authors: Michelle Miller, Brady Williams, Cris Carusi and Ruth McNair

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Authors: Michelle Miller, Brady Williams, Cris Carusi and Ruth McNair

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Editorial reviews provided by Jerry Clark, UW Extension Crops and Soils Educator; Jeff Jensen, grower; and Paul Mitchell, Associate Professor, UW-Madison Agricultural and Applied Economics

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Sprouting new tree nut businesses in the Midwest: Five case studies

by Michelle Miller, Brady Williams, Cris Carusi and Ruth McNair

Introduction

An increase in the domestic and foreign demand for tree nuts is driving expansion of U.S. nut production.¹ Per capita tree nut consumption in the U.S. nearly doubled from 1977 to 2012 due to an increase in incomes and heightened awareness of the nutritional value of nuts.²

From 2007 to 2012, U.S. acreage planted to almond trees increased over 18 percent, and the number of acres devoted to other nuts tracked by the USDA Ag Census—chestnuts, hazelnuts, macademia nuts, pecans, pistachios, English walnuts and others—increased over 10 percent.³ The number of pounds of shelled nuts sold in the U.S. increased 81 percent for almonds and 36 percent for other nuts from 2007 to 2012, with over 2.8 billion pounds sold in 2012.⁴ The value of those nuts grew over that time period, with a 77 percent increase in the value of almonds sold and an 111 percent increase for other nuts.⁵ The total value of U.S. nuts sold in 2012 was over \$7 billion.⁶

The majority of U.S. tree nuts are produced in the South and Southwest. Nearly three-quarters of domestic pecans are grown in Georgia, New Mexico and Texas. California dominates the U.S. tree nut growing industry, providing nearly 90 percent of the nation's annual tree nut harvest and most of the nation's almonds, pistachios and walnuts.⁷

Growers in the Midwest are awakening to tree nuts as a possible source of farm income and a way to diversify their production. While U.S. almond production is based exclusively in California⁸, the Midwest is well-suited for the production of black walnuts, hazelnuts, hickory nuts, heartnuts and chestnuts, and pecans will grow in the region's southern states.

Increasing tree nut production in the Midwest can potentially increase the sustainability of agriculture and food systems in this region. Diverse agroforestry systems, including systems with nut trees, have the potential to provide farm revenue, environmental benefits⁹ and resilience in the face of variable weather and extreme weather events.¹⁰ Edible nut production can be an integral part of

¹USDA ERS. N.d. Fruit and Tree Nuts. Accessed 6/5/15. <http://www.ers.usda.gov/topics/crops/fruit-tree-nuts/background.aspx>

²Ibid.

³USDA Ag Census, Table 39. 2012. Accessed 7/20/15. http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/uv1.pdf

⁴USDA ERS Fruit and Tree Nut Yearbook Tables, Table F-3. All tree nuts: Utilized production (shelled basis), United States, 1980/81 to date. October 31, 2014. Accessed 7/20/15. <http://www.ers.usda.gov/data-products/fruit-and-tree-nut-data/yearbook-tables.aspx#40907>

⁵USDA ERS Fruit and Tree Nut Yearbook Tables, Table F-5. All tree nuts: Value of production, U.S., 1980/81 to date. October 31, 2014. Accessed 7/20/15. <http://www.ers.usda.gov/data-products/fruit-and-tree-nut-data/yearbook-tables.aspx#40907>

⁶Ibid.

⁷USDA ERS. N.d. Fruit and Tree Nuts. Accessed 6/5/15. <http://www.ers.usda.gov/topics/crops/fruit-tree-nuts/background.aspx>

⁸Iowa State University Ag Marketing and Resource Center. Almond Profile. Accessed 6/29/15. http://www.agmrc.org/commodities__products/nuts/almond-profile/

⁹USDA National Agroforestry Center. 2012. Profitable Farms and Woodlands: A practical guide in agroforestry for farmers and ranchers. Accessed 6/16/15. http://nac.unl.edu/documents/morepublications/profitable_farms.pdf

¹⁰Neufeldt H, Wilkes A, Zomer RJ, Xu J, Nang'ole E, Munster C, Place F. 2009. "Trees on farms: Tackling the triple challenges of mitigation, adaptation and food security." World Agroforestry Centre Policy Brief 07. World Agroforestry Centre, Nairobi, Kenya. Accessed 7/2/15. <http://worldagroforestry.org/downloads/Publications/PDFS/mitigation-adaptation-food-security.pdf>

diversified agriculture, including forest farming, which incorporates a variety of perennial plants. It is especially well suited to marginal land in rural areas. Because nut trees don't require annual tillage, they hold the soil in place during extreme rainfall and wind events. Hazelnuts provide soil cover throughout most of the year. As part of a complex cropping system, nuts and other perennial tree crops can contribute to productive landscapes that help address the challenges of climate change, pests and diseases.

While tree nuts may provide an economic opportunity for Midwest growers, they present marketing challenges. Consumers who prefer almonds and pecans may not seek out hazelnuts, chestnuts and black walnuts. Educating consumers about less common nut types is critical, along with differentiating midwestern nuts from imported and domestic commodity nuts by highlighting their unique qualities and regional origins. Value-added processing can increase the marketability of less

common nut varieties, but this option may be cost-prohibitive for a new nut business.

Because of the potential benefits of perennial crops, perennialization of the landscape is an emerging program area for the UW-Madison Center for Integrated Agricultural Systems (CIAS). In order to help emerging tree nut businesses in the Upper Midwest address some of the challenges described above, in 2013 researchers from CIAS conducted interviews of owners, managers, consultants, board members and affiliates of five midwestern businesses engaged in regional nut processing. This research was intended to provide industry leaders with information gleaned from the experience of established midwestern nut processors and marketers. These in-depth interviews revealed a number of common themes and business development challenges. The experiences of these community-based, farmer-organized companies may be informative to growers of tree nuts and other perennial crops.

Interviewed businesses



Chestnut Growers, Inc.

www.chestnutgrowersinc.com

Based in: Jackson, Michigan

Began operation: 2001

Nuts purchased: Chinese chestnuts (20 percent) and Japanese/European hybrid chestnuts (80 percent)

Business organization: Cooperative

Employees: None; co-op board runs operations; employees at storage facility provide labor during collection process

Number of growers: Approx. 25

Geographic distribution of growers: Lower Peninsula of Michigan

Markets: Sells fresh nuts to a variety of markets including local specialty markets and contacts from the Detroit Produce Terminal; adds value to some smaller nuts through processed products (gluten-free flour, freeze-dried chestnut slices for chefs)

Facilities: Rented storage facility for receiving; rents the only commercial chestnut peeler in the U.S.

Pay based on: Nut size and quality standards, nonmembers get lower prices.



Hammons Products Company

hammonsproducts.com

Based in: Stockton, Missouri

Began operation: 1946

Nuts purchased: Black walnuts, mostly collected from the wild

Business organization: C corporation, stock primarily held by family members, seven member board

Employees: 85 year-round employees and 20 to 30 seasonal employees during harvest season

Number of growers: Because this company sells wild harvested nuts, they have thousands of nut gatherers collecting nuts from national forests and their own land.

Geographic distribution of growers: 250 buying stations in 16 midwestern and southern states, concentrated in Missouri and the Ozarks region (Arkansas, Kansas and Oklahoma)

Markets: Primarily sells black walnut nutmeats wholesale to food distribution companies, ice cream makers and grocery stores; also sells baked goods, flavorings and oils from black walnuts, products derived from other nuts and industrial products derived from ground shells used in abrasives, filtration systems and cosmetics.

Facilities: Stockton plant includes drying barns and bins, shell cracking machine, electronic nut sorting machines and shell grinding equipment

Pay based on: Weight as measured at buying stations.



Heartland Nuts 'N More

heartlandnutsnmore.com

Based in: Valparaiso, Nebraska

Began operation: Founded 2003, history goes back to the 1970s Nebraska Nut Growers Association

Nuts purchased: Black walnuts and pecans from grafted cultivars, also hazelnuts

Business organization: Cooperative

Employees: No paid staff; members volunteer their time to help process the nuts at the central facility and board members handle management

Number of growers: 35 members

Geographic distribution of growers: Nebraska, Iowa, Kansas and Missouri

Markets: Black walnuts make up more of the business than pecans; most sales are wholesale to local institutions including university dining services, local confectioners and retail stores. Some direct-to-consumer sales.

Facilities: 5,000-square foot processing facility with nutcrackers, separators, packaging machine and coolers. This facility also houses a retail store.



Missouri Northern Pecan Growers, LLC

mopecans.com

Based in: Nevada, Missouri

Began operation: 1999

Nuts purchased: Pecans (primarily certified organic)

Business organization: Limited Liability Company

Employees: Six year-round employees and three seasonal employees during harvest season

Number of growers: 25-50

Geographic distribution of growers: Mainly in and around Vernon County, Missouri, on that state's western border

Markets: Primarily sells wholesale organic pecans to confectioners and distributors, including small specialty stores and national supermarket chains, and has shipped pecans overseas. Retail sales are a small portion of total sales.

Facilities: Processing facility with cleaning and shelling equipment; off-site cold storage facility space is leased.

Pay based on: Premium for organic nuts over conventional prices.



Prairie Grove Nut Growers

www.prairiegrovechestnutgrowers.com

Based in: Columbus Junction, Iowa

Began operation: 2000

Nuts purchased: Chinese chestnuts

Business organization: Sole proprietorship acting as informal brokerage

Employees: Husband /wife team runs the processing facility, and another husband/wife team is contracted for marketing. Seasonal workers hired as needed.

Number of growers: Approximately 50

Geographic distribution of growers: Iowa, Missouri, Illinois

Markets: Primarily selling fresh chestnuts to an ethnic Bosnian market

Pay based on: Nut size and quality standards.

Summary of interviewed tree nut businesses

	Chestnuts Growers, Inc.	Hammons Products Co.	Heartland Nuts 'N More	Missouri Northern Pecan Growers LLC	Prairie Grove Nut Growers
Based in	Jackson, MI	Stockton, MO	Valparaiso, NE	Nevada, MO	Columbus Junction, IA
Year started	2001	1946	2003	1999	2000
Nuts purchased	Chinese and hybrid chestnuts	Black walnuts	Black walnuts and pecans	Pecans	Chinese chestnuts
Organization	Cooperative	C corporation	Cooperative	LLC	Sole proprietorship
# Employees	0	85 year round plus 20-30 seasonal	0	6 year round plus 3 seasonal	4 plus some seasonal
# Growers	25	Thousands of nut gatherers	35	25-50	50

Building a supply chain

Nuts require processing. Anyone who, as a child, stuffed their pockets full of nuts realizes that while the trees provide a bountiful harvest, cracking the nut can be a real challenge. Husking, cleaning, sizing, cracking, separation and other tasks to get to the desired kernel requires a sizeable investment of time and labor, as well as capital investment to make or buy equipment at the appropriate scale. The Missouri Northern Pecan Growers is a case in point. Growers in this company pursued collective processing so that they could focus on the harvest.

Once a company has sufficient capital to invest in processing equipment, it is necessary to have enough product to cover operating costs and earn a return on the capital investment. When an efficient operating scale is achieved, wholesale markets are a viable outlet and businesses can develop relationships with suppliers, distributors and markets, who together make up the supply chain. The supply chain provides a way to move nuts from individual farms to a processing facility, and then sell them wholesale to retailers and processors. Developing a supply chain may seem easy and



One of the primary reasons growers start to work together is to achieve a scale to make mechanical processing practical.

Photo: Chestnut Growers, Inc.

straightforward, but in practice it requires vision, planning, tenacity, patience and resolve.

To achieve the scale necessary for mechanical processing, businesses tend to start with a number of nut growers working together. The first questions that arise for these entrepreneurs commonly revolve around how to do business together.

Choosing a business structure. Interviewees noted that organizing growers to pool and collectively market their product is a significant hurdle, especially since nut production is often not the growers' primary business. Across the different nut businesses studied, many growers were semi-retirees, serious hobbyists with other jobs, or farmers of other crops looking to diversify. Growers' limitations included time, financial capital and, in some cases, business expertise.

The cases in this study cover four different business structures: two cooperatives (Heartland Nuts 'N More and Chestnut Growers, Inc.), a closely held family corporation (Hammons Products Company), a Limited Liability Company (Missouri Northern Pecan Growers) and a sole proprietorship informal brokerage (Prairie Grove Nut Growers). Chestnut Growers, Inc. has a sophisticated marketing agreement with its members to ensure business viability, while Prairie Grove Nut Growers operates on handshake agreements.

Finding time for business start-up tasks may be the first hurdle that growers confront. Organizing a formal business requires expertise and understanding of state-specific legal requirements. For businesses operating in multiple states, such as Prairie Grove Nut Growers, state-specific legal requirements may be one of many start-up barriers. The 30-plus growers at Heartland Nuts 'N More relied on help from the Nebraska Cooperative Development Center to establish their cooperative business. Chestnut Growers, Inc. hired a lawyer and a cooperative development expert to help them set up their co-op.

Co-ops require considerably more participation and input from a larger number of members than other business structures, especially in the start-up phase, which can slow down operations. If established by a single proprietor or a small number of members, LLCs and corporations may allow for faster movement at the outset, especially once the business plan is written and capital is readily available. Chestnut Growers, Inc. board members noted that while being a cooperative had opened up significant grant and financing opportunities, more grower-member participation was required than would be necessary for other forms of incorporation. According to Prairie Grove Nut Growers, the level of participation required to form a cooperative was too great for them.

"We talked about forming an organization that would have a board of directors and officers and publish a newsletter, and nobody wanted to do that. They weren't interested in paying dues or an application fee or even filling out an application. All they wanted to do was have a place to sell their nuts...We went back home and talked about it and somebody suggested, 'Well, why do we have to go through all that? Why can't we just appoint one person to be in charge of marketing, and market all the chestnuts through that person?'" — Prairie Grove Nut Growers grower

Chestnut Growers, Inc. has made a concerted effort to inform members about the services that the co-op provides, especially when the prices they are paying to members may be less than what non-members are able to negotiate in the marketplace.

"If they do not hand their stuff off to the cooperative, they do not have marketing expertise, they don't have delivery expertise, they don't have bagging expertise, they don't have storing expertise, they don't have sizing expertise, they don't have cleaning expertise."
—Chestnut Growers, Inc. advisor

Cooperatives offer members a way to limit their personal liability for company debts and pool resources among many individuals. LLCs

and corporations also limit personal liability for company debts. C corporations are taxed as corporate entities and corporate income received by shareholders is also taxed as personal income. This is in contrast to an LLC or cooperative, where income is only taxed once.

Hammons Products Company incorporated in 1954 as a C corporation. C corporations, which are typical for medium- to large-sized businesses, are required to have officers, a board of directors and shareholders, and to file regular reports. Hammons used to have outside shareholders—mainly those who knew and trusted founder Ralph Hammons and invested in his business. Over the years, the Hammons family has redeemed those shares, and stock is currently held primarily by individual family members or held in trusts dedicated to taking care of older family members. The closely held corporation has a seven-member board: three internal board members and four outside directors. Collectively, the outside directors have experience as CEOs, as well as legal, investment and insurance expertise. The outside directors helps Hammons keep its own internal leaders accountable, as they must present their performance and progress to external experts.

While a LLC shares some characteristics with a C corporation, there are some important differences that make it a good fit for smaller organizations. LLCs do not have a requirement for a board of directors or regular annual meetings, and paperwork requirements are minimal. Membership requirements for LLCs are more flexible than those of cooperatives and corporations. Profits and losses are passed directly to the LLC members (owners) rather than being taxed at the company level. The high cost of setting up a cooperative and the simplicity of forming an LLC drove Missouri Northern Pecan Growers to the latter option. Five grower-members pooled their money in the LLC, invested in processing equipment and contracted for outside processing.

However, Missouri Northern Pecan Growers' LLC structure has also presented the partners with some challenges. Two partners applied for and received six-figure USDA grants to serve as operating capital in the early years of the business. Other original participating partners benefitted from these grants without procuring them. Given a chance to start over, one of the two original partners noted that he would incorporate with stock options rather than rely on grants for start-up capital, so those who directly benefit the company receive benefits in return. This grower-owner also originated the LLC's organic program, convincing the growers to get certified and doing the associated marketing. While he gets a bonus on every pound of organic pecans that Missouri Northern sells, the pass-through taxation of an LLC recognizes this bonus as short-term personal income. With a corporate business structure, this bonus could be treated as a long-term capital gain, with more favorable tax implications.

To save money and time, Prairie Grove Nut Growers decided to proceed without formally filing paperwork to create a legal business organization. This informal brokerage approach has worked well for these growers, whose goal is simply to find a place to sell their nuts. After production tripled in the fall of 2013, the group decided to reorganize



Prairie Grove Nut Growers sells Chinese chestnuts through a sole proprietorship.

Photo: Prairie Grove Nut Growers

but retain the informal brokerage arrangement. Their general manager retired and a husband/wife team stepped up to manage processing. This couple operates as a sole proprietorship and they purchase and sell all of the nuts. Another husband/wife team was contracted to market product. This business also started to hire seasonal workers, as needed. As Prairie Grove's volume of business increases, more people will be involved with the enterprise in an official capacity, and it appears that more capital will be necessary as well. Whether, and how, the grower-members decide to move toward a different legal structure will be a key future challenge for this enterprise.

Locating start-up and operating capital. In the case of the businesses interviewed for this study, the farmers themselves were the most common source of start-up capital. Requiring growers to invest in a collective business creates one of the first barriers to joining a group enterprise. Those with money to invest in the operation stay engaged, while others may leave. For example, early meetings of the Missouri Northern Pecan Growers had as many as 70 growers in attendance, but this quickly dwindled to seven when farmer capital investment was needed. Now, three growers run the processing operation for 25 to 50 growers in any given season.

The two cooperative businesses studied, Chestnut Growers, Inc. and Heartland Nuts 'N More, have clear investment requirements for their members. For instance, Chestnut Growers, Inc. members are required to pay a one-time membership fee, purchase "stock" and sell most of their nuts through the co-op to ensure adequate operating capital.

Grant funding for start-up capital was vital to the success of most of these enterprises. These grants came from a variety of federal, state and non-profit sources including USDA value-added producer grants, USDA Sustainable Agriculture Research & Education (SARE) grants, rural development

grants, product development grants and operating capital grants. The enterprises used the grants for buying equipment and buildings, purchasing nuts to process, hiring temporary marketing and processing employees, developing new value-added products, and more.

Grant funding sometimes turned out to be a double-edged sword, however. Heartland Nuts ‘N More used grant funds to supplement start-up capital derived from small loans from the member-growers. Interviewees noted that spending time on grant management detracted from business management, which adversely affected the business once the grant funding was gone. However, without grants to defray start-up costs, this business may not have started.

“The downside...is that they became so dependent on grants that they forgot they were trying to run a business...The problem is they didn’t plan for what was next when the grant ran out. Now the marketing person’s gone, the processing person’s gone, and they’re doing it all themselves again.”— Cooperative development expert working with Heartland Nuts ‘N More

Chestnut Growers, Inc. found itself in a bind with a reimbursement grant for product development. Because this grant was paid as a reimbursement, some of the members had to take out a loan to cover up-front costs. The loan ended up costing the membership \$15,000 in interest and fees, and taught them the value of a good treasurer.

Two growers with the Missouri Northern Pecan Growers developed their farms with large grants. This put these operations in a different financial position than their partners who didn’t have grant support.

Purchasing nuts from growers. For new nut supply chains to reach their full potential, it is critical that product pricing encourage growth in nut production, pay for investments in processing and marketing, and attract wholesale buyers. Each business has a different approach to pricing their

product. Prairie Grove Nut Growers sets a price for its growers based on nut size, with discounted rates for poorer quality nuts. Chestnut Growers, Inc. sets a target price for an average grade product, and then pays a premium for higher quality product or a smaller percentage of the target price for a lower-grade product. Because the Missouri Northern Pecan Growers differentiate their products as “being northern, being native and being organic,” they purchase certified organic nuts from growers at a premium ranging from 10 percent to 100 percent above the conventional price.

Developing strategic partnerships. Most of these businesses didn’t invest in expensive processing equipment or other infrastructure immediately after commencing operations; instead, they built markets while developing strategic business partnerships. They found business partners for custom processing, and rented space and equipment.

Chestnut Growers, Inc. doesn’t own a building, in part because it generally sells out of product just after the harvest. The co-op rents space for nut receiving and contracts with the storage facility to hire some of their employees for nut sorting. Heartland Nuts ‘N More initially brought nuts to Iowa for custom processing, while Prairie Grove Nut Growers made use of a licensed community kitchen to shell and package frozen chestnuts. During its first few years, Missouri Northern Pecan Growers sent its pecans to Texas and Arkansas for custom shelling.

Key partners also provide technical expertise for growing, processing and marketing product, as well as business development. The businesses in this study received assistance from grower associations, forestry organizations, Extension, state and federal agencies, cooperative and other business development organizations, and universities. These partnerships helped both emerging and established businesses develop supply chains. Of special note were partnerships to develop cultivars

and growing strategies to improve harvests, as well as business development assistance. Hammons Products Company has worked with the University of Missouri for over 40 years to boost nut production through improved cultivars, agroforestry techniques and nutrient cycling. Chestnut Growers, Inc. works closely with Michigan State University (MSU) to develop new products, secure grant funding for strategic projects and improve cultivars.

“The partnership that we’ve developed [with MSU] has been so important to move it along. It would’ve been hard to build the cooperative to the extent that it is right at this moment...without Michigan State.”

— Chestnut Growers, Inc. board member

Building a labor pool. Many of these businesses struggle with labor issues. The seasonal nature of nut harvesting and processing combined with the tendency to undervalue the labor necessary to run a business may fuel conflicts between growers. Both Chestnut Growers, Inc. and Heartland Nuts ‘N More reported that they were operating with no permanent paid staff and observed that this negatively affected their businesses. The marketing coordinator for Prairie Grove Nut Growers recently retired and was replaced with four staff people, an indicator that the business was understaffed. Heavy reliance on board members to provide the labor needed to run a cooperative leads



In addition to grower-member labor, Chestnut Growers, Inc. contracts with employees of a rented storage facility.

Photo: Chestnut Growers, Inc.

to board burnout, as experienced by Chestnut Growers, Inc. and Heartland Nuts ‘N More.

At the time of the interviews, Missouri Northern Pecan Growers employed six full-time people and three seasonal workers. Hammons Products Company, with its 70 years of experience, maintained 85 year-round employees at its main processing plant as well as seasonal workers to augment processing needs. They also hired seasonal staff at the 200 or more hulling stations throughout the sixteen-state region where they buy product.

Production challenges

Establishing an orchard is a considerable investment, as the trees won’t bear fruit for years. Because these businesses aggregate their product for processing, they need to address production challenges such as growing enough product, growing the right product and enhancing product value.

Opportunity costs. Members of a processing business need to know if they have enough product to enter the market, and individual members need to consider the opportunity costs of growing a perennial nut crop. What will they need to give up to start, or increase, nut production? Answers will vary widely depending on whether the orchard is on prime farmland or marginal agricultural land, or if the resource under management is a stand of unmanaged trees from which they intend to collect nuts (wildcrafting). Tree nut production can be a good use of highly erodible land, since the perennial cover stabilizes the slopes and provides a marketable crop on otherwise marginal acres.

Prairie Grove Nut Growers estimated that chestnuts can net a landowner \$1,000 to \$6,000 per acre, but the steep learning curve can pose a barrier to entry and profitability. Other barriers include a lack of available nursery stock and reductions in harvests due to wildlife predation.

The Missouri Northern Pecan Growers reported they were wildcrafting from existing trees, as ranching and raising commodity crops was a more profitable use of their prime farmland. One Missouri Northern Pecan grower noted that there is more profit in growing corn at five dollars a bushel than growing pecans without price supports. If production is tied to existing stands of nut-bearing trees, it is unlikely that farmers will respond to a dramatic increase in market demand by investing in new stands and breeding programs. Wildcrafting helps farmers diversify their income stream, not transform it.

In contrast, Heartland Nuts ‘N More farmers are planting walnuts and pecans on marginal agricultural land. Their up-front expenses are much higher than those incurred by wildcrafting businesses, so their return on investment is lower. Still, this company sees value in diversifying grower income by making marginal lands fruitful.

Some of the companies emphasize the history and social benefits of harvesting nuts. Missouri Northern Pecan Growers and Hammons Products Company both point to the traditional role nut harvesting plays in improving community economics and social cohesion. In its promotional material, Hammons tells the story of family harvesting and cooking traditions around black walnuts, and how selling the nuts historically helped finance Christmas gifts, vacations, education and property taxes. Stockton, Missouri, where Hammons’ central processing facility is located, derives some of its identity from the annual nut harvest and has hosted an annual black walnut festival since 1961.

Varietal selection. Varietal selection is an important consideration when establishing a nut orchard. In Michigan, growers with Chestnut Growers, Inc. worked with breeders to develop a chestnut that would yield well in their region.



The average black walnut that Hammons Products Company processes contains only six to seven percent nutmeat.

Photo: Hammons Products Co.

“The stuff that they were putting out were [trees] that...if it was a chilly spring or a hot summer or a drought, they would shut down and it took forever for them to get into production.”— Michigan State University professor, describing early chestnut plantings in Michigan.

The average black walnut that Hammons Products Company processes contains only six to seven percent nutmeat by volume; the rest is shell, moisture and hull debris. These growers worked with universities to develop region-specific cultivars with nuts that contain more nutmeat. Hammons is also looking to increase its sourcing from planted black walnut orchards to increase nutmeat yield. Farmers with Heartland Nuts ‘N More are committed to growing improved black walnut varieties that contain up to 35 percent nutmeat. In Iowa, Prairie Grove Nut Growers determined that their customers preferred a traditional chestnut variety and committed to producing it.

Variable harvests. Growers and their processing and marketing companies contend with variation in the quality and quantity of their harvests. The reasons behind this variability include extreme weather, plant physiology (including the age of the tree, the species and variety, and how it responds to its environment), and how many trees (and farmers) are producing nuts at any given time.

When all members of a business grow nuts within a limited geographic area, local growing conditions could affect all or most of a harvest. Hammons Products Company purchases nuts from a large and diverse geographical area, which helps to mitigate the effects of an off-year in a particular region. The other four companies address variable harvests by storing nuts for market.

Hammons evaluates its business success on several dashboard indicators including nut harvest, yield and quality. This business has worked with the University of Missouri to select cultivars that both yield a greater percentage of nutmeat and don't display alternate-bearing tendencies, where the tree produces a heavy crop every other year. While Hammons's nut suppliers are nut gatherers rather than growers, this business has encouraged some land owning suppliers to plant trees and learn how to harvest high-quality nuts for sale. In recent years, Hammons is also purchasing more orchard-grown nuts to better meet market demand and improve nut quality.

Market value. Some of the businesses choose specific production practices because they have high market value. Wildcrafting gives a product an authentic provenance that is in high demand with upscale buyers. Hammons Products Company and the Missouri Northern Pecan Growers rely primarily on wildcrafting to source product for their supply chains. The Missouri Northern Pecan Growers invested in organic certification, which incurred additional costs. However, organic certi-



Highlighting organic and wild has been a winning strategy for the Missouri Northern Pecan Growers.

Photo: Missouri Northern Pecan Growers

fication both cut input costs and increased income through premium pricing. Geographic indication, or assigning a product a legally protected name associated with place and other characteristics, provides a product story that attracts buyers. Missouri Northern Pecan Growers is the only business interviewed that is pursuing geographic indication. For some growers, production approaches that increased market value were perceived as barriers, while others saw them as important value-added opportunities.

"I don't know of any other product, with the exception of olive trees in Italy, that are as old and sustainable as some of our trees." — Missouri Northern Pecan Grower partner

Processing options

The core activity of all of the businesses researched is to process a raw product—nuts in the shell—into a ready-to-eat food. In the case of nuts, processing is accomplished by removing husks and shells. As the businesses expanded, they developed value-added products, including some derived from husks and shells that are typically part of a waste stream, and increased the shelf life of their nuts to consistently meet market demand.

Acquiring processing equipment. A common hurdle for nut processors is to find equipment suited to the type of nut and scale of the business. Chestnut Growers, Inc. developed its own chestnut grading process and leased an appropriate commercial chestnut peeler from Italy. Prairie Grove Nut Growers developed their own shelling equipment to suit the type and quantity of nuts they produced. Early on in their operation, the Missouri Northern Pecan Growers tried to use a nut cleaner meant for larger pecans grown in the South. Growers found it only marginally useful. They contracted with custom shellers to access the shelling technology they needed without a



Gluten-free chestnut flour is a value-added product.

Photo: Chestnut Growers, Inc.

high initial investment in infrastructure. Once the operation grew, they purchased their own shelling equipment.

"[We] didn't have to invest the three, four, five hundred thousand dollars in a small shelling plant. That allowed us to develop our market...and if you develop your market first, you know whether or not it's going to fly... [In 2007] we had [enough] customers that we just bowled ahead and put in our own shelling plant. But I would not recommend it from the get-go. Develop your market first."— Missouri Northern Pecan Growers partner

Developing products. Value-added processing transforms raw product into a more marketable form and complements a business's bulk wholesale operation. Chestnut Growers, Inc., for example, turns small nuts that are hard to sell into one-pound bags of frozen, peeled chestnuts. It also makes freeze-dried chestnut slices, and has sold chestnut chips to microbreweries for making chestnut beer. Similarly, Prairie Grove Nut Growers developed packages of frozen, shelled chestnuts before it found a more profitable market for its fresh, small- and medium-sized nuts.

Hammons Products Company offers a variety of value-added products made from black walnuts.

They also sell harvesting and home cracking equipment, cookbooks and gift items. They do this as a service to their growers and retail customers, however, their most lucrative market is still wholesale. In the past, as much as 40 percent of the harvest has been sold wholesale as an ice cream ingredient.

"It's mostly a customer service...to help provide something that people might like that have black walnuts in them, and maybe somebody will get the idea of going into business for themselves...[and] buy black walnuts [from us] then make those products and sell them."
-Hammons Products Company official

The Missouri Northern Pecan Growers found that their cracking process left them with lots of small pieces in addition to the high-value pecan halves. One partner in the business developed a Parmesan cheese-like shaker for the hard-to-sell bits, and marketed them as a topping for ice cream or salads. Whether finding a market for processing byproducts or innovatively packaging smaller nutmeats and pieces, finding uses for non-premium product has been vital for these businesses.

"In the early years...before the ethnic market discovered us...we were able to sell large and extra-large chestnuts, but we had no market at all for small and medium... [We] started selling frozen chestnut kernels to chefs at white tablecloth restaurants...Back then, medium chestnuts made up about 40 percent of what we were harvesting; the small about 5 percent...So it was a significant percentage of our harvest that we couldn't sell, so that's why we started processing."
— Prairie Grove Nut Growers marketing coordinator

Some of the interviewees felt that businesses should avoid value-added processing at first and focus on selling raw nuts. Several interviewees noted that the costs of value-added processing can be prohibitive and that it is worth the extra work to find wholesale markets for raw product.

"There's absolutely no reason to do value-added processing when we can sell everything fresh. It's just way more profitable to sell fresh chestnuts because of the cost of the processing...and the hassle and the time and the hours and the government paperwork."

— Prairie Grove Nut Growers marketing coordinator

Innovating to develop a market for nut wastes.

Only a small portion of most nuts is marketable nutmeat. Once they had a few years under their belt, some of the interviewed businesses began to experiment with innovations that reduce waste by developing products and markets using materials remaining after processing that would otherwise be discarded. At Hammons Products Company, for example, grinding walnut shells into industrial abrasives is an essential part of their business. They've also explored using husks and shells as a source of nutrients in their orchards. Using federal stimulus money, the Missouri Northern Pecan Growers bought a furnace that burns pecan shells, providing heat to dry the pecan meats, as the nuts are soaked in water before cracking. They also considered marketing pecan shells as mulch. Heartland Nuts 'N More is looking into using husk byproducts from the nuts they process for an intestinal cleansing product, and using juice as a wood or tanning stain.

Processing to manage product flow. Variable harvests and seasonal market demand can create



Hammons Products Company sells ground walnut shells as industrial abrasives.

Photo: Hammons Products Co.

inconsistent product availability. Value-added processing is one way to make products more consistently available. Storage is another. Missouri Northern Pecan Growers keeps nuts at temperatures just above freezing and cracks the nuts just before shipping to ensure fresh nuts are available for an extended period of time. Hammons Products Company also keeps nuts in cold storage to maintain product flow from season to season and year to year. Chestnut Growers, Inc. freezes chestnuts after peeling for future sales.

"It's very difficult trying to balance the three legs—you have production, financing and marketing. If you don't know what production's going to be, then how do I know how much push to put into marketing?"

— Missouri Northern Pecan Growers partner

"We've learned a lot about keeping nuts both in-shell and nutmeats over a period of time where they'll still retain their quality and their freshness." — Hammons Products Company official

Marketing and pricing unique products

When it comes to marketing, the message from interviewees is clear: success as a small-scale, value-added nut processor means steering clear of the commodity market and avoiding head-on competition with large companies. The interviewees concur that you need to build markets first, and use that momentum to build your business. Differentiating product in the marketplace is critical to the success of these small businesses. Interviewees see chefs as strategic marketing partners and say that a diverse customer base is an important element of their success.

Product differentiation. Interviewees emphasized the need to differentiate their products from similar imported and domestic commodities in order to fetch a higher price. Chestnut Growers, Inc. and Prairie Grove Nut Growers differentiate



Emphasizing that a product is from an improved nut variety can be a marketing tool.

Photo: Heartland Nuts 'N More

their nuts from commodity chestnuts imported from Italy and Asia. Hammons Products Company distinguishes its black walnuts from English walnuts grown extensively in California; Missouri Northern Pecan Growers distinguishes its products from larger, less-sweet, grafted southern pecan varieties. Heartland Nuts 'N More differentiates its grafted black walnut cultivars from wild, “unimproved” varieties.

This differentiation can be based on qualities such as distinctive flavor, local sourcing and careful handling to maximize quality. Prairie Grove Nut Growers offers fresher, higher-quality chestnuts than the imports commonly found in grocery stores, and reaches out to a targeted market—Bosnian immigrants—that specifically demands Chinese chestnuts.

At the other end of the spectrum, the Missouri Northern Pecan Growers expanded sales to broader markets by obtaining organic certification, selling the story of native northern pecans, asserting their product’s superior taste, and pursuing geographic indication status. By doing this, they kept buyers from perceiving their product as a commodity. This business has shown that the story of a particular food can be an important marketing tool.

“[Becoming certified organic] really opened the doors for us.” — Missouri Northern Pecan Growers partner

Educating consumers about unfamiliar nuts.

Customers’ familiarity with a particular nut and its story impacts market possibilities. Chestnut Growers, Inc. and Prairie Grove Nut Growers had to confront the challenge of acquainting American consumers and chefs with the taste and preparation of chestnuts. For many, the holiday song that describes “chestnuts roasting on an open fire” is their only cultural context for chestnuts. A connection with a Bosnian community in Iowa, however, sent demand for Prairie Grove’s fresh chestnuts skyrocketing.

“Right now, the community of 4,000 Bosnians in Waterloo is sucking up 90 percent of the chestnuts grown in Iowa, Illinois and Missouri put together...[The universities and chestnut grower organizations] think if only they could get Americans to eat more chestnuts then the market would be so much bigger. They’re missing out on the fact that there’s already a bottomless pit of a market out there ...” -Prairie Grove Nut Growers marketing coordinator

Chestnut Growers, Inc. discovered another successful approach to chestnut promotion. A co-op advisor suggested sending chestnut samples to potential buyers. This strategy led to contacts at the Detroit Produce Terminal and connections with local specialty markets. Many buyers, in fact, strongly prefer the taste of the Michigan-grown chestnuts and found that the better handling techniques employed by Chestnut Growers, Inc. result in fewer rotten or moldy nuts.

Heartland Nuts 'N More growers found that area consumers were sometimes reluctant to buy their black walnuts, perhaps because they previously tasted sub-par nuts. To give their products a good name, grower-members gave out free samples of their pecans and black walnuts in upscale grocery stores. The co-op also advertised in magazines, and members organized promotional events at

community festivals in order to increase visibility. A grant allowed the co-op to hire a marketing coordinator who developed marketing relationships with retail outlets such as bakeries and grocery stores.

Market price. All of the interviewed businesses found that market demand for their nuts exceeded production, and they were actively seeking new growers and encouraging current members to plant more trees.

Even in a growers' market, processors must charge a fair price for their product. Determining this price, especially in the start-up phase of a business, can be challenging. When setting their price, Prairie Grove Nut Growers neglected to account for shrinkage as chestnuts lose their moisture in cold storage. As a result, their business lost money as the nuts lost moisture. Originally, growers had settled on a 12 percent product markup, but to offset shrinkage, they increased the markup to 23 to 28 percent.

Sales strategies. Some of the nut enterprises vigorously pursue their markets, while others have customers come to them. Hammons Products Company does extensive demographic research to

identify core customers. This has been especially helpful in understanding how to work with and expand its base of wholesale buyers.

The scope and scale of the different businesses' markets vary widely—from small, local grocers to overseas importers. Nonetheless, wholesale, unprocessed nuts are the most lucrative market, if the demand is there.

Heartland Nuts 'N More reported that only a small percentage of their sales were direct-to-consumer. A regional confectioner and dining services at the local university campus purchase most of their product, along with local grocery stores in Omaha and Lincoln.

Missouri Northern Pecan Growers rely on wholesale buyers such as bakeries, confectioners and the Hy-Vee supermarket chain, and have developed buyer contacts in other countries by attending national food trade shows in Chicago. A key sales strategy for this business is having a good story that illustrates the origins, quality and uses of their product.

At the time of the interviews, all the businesses had websites communicating the stories of their products and businesses. Wildcrafting stories are especially compelling, as wildcrafting is a family tradition throughout the world with an aura of authentic and intimate connection to the land. Hammons Products Company has marketed wildcrafted black walnuts for many decades, and the tradition of harvesting wild black walnuts in the rural Ozarks is a key part of their marketing strategy. Wildcrafting is also an important selling point for the Missouri Northern Pecan Growers.

Recipes can make a product more accessible, especially for customers who don't normally consume a particular nut. Though few interviewees discussed the importance of recipes as a part of a marketing plan, each business's website had a section dedicated to recipes incorporating their products.



The direct-to-consumer sales at Heartland's retail store provide a small portion of total sales.

Photo: Heartland Nuts 'N More

Recipes were also a way for these businesses to embed product in nostalgic imagery:

“Enjoy some great pecan recipes straight from Granny’s secret cookbook. (She’s still a little upset that we shared them, but she’s getting over it!)” — Missouri Northern Pecan Growers website

Similarly, while the health benefits of nuts were not frequently mentioned in interviews, emphasizing these benefits was an important component of online marketing for these companies:

“Chestnuts have just the right balance of complex carbohydrates and high-quality protein to make them the ideal human food.” — Prairie Grove Nut Growers website

Chefs as strategic marketing partners. Several enterprises introduced value-added products in high-end restaurants by partnering with chefs, who can be important strategic partners in early business development. They tend to be early adopters of new culinary trends, are interested in authentic products and looking for unique food that will showcase their creative talents. Chefs at high-end restaurants are often willing to pay more



Mouthwatering recipes on company websites provide consumers with new ideas on how to use nuts.

Photo: Hammons Products Co.

for ready-to-use nut products. Because high-end restaurants distinguish themselves by sharing farmer and food stories with their customers, they are important strategic partners for marketing differentiated products.

The interviewees found that the restaurant market can be unstable, however. Working with restaurants was difficult for some of the businesses due to the low volume of product purchased and the tendency for chefs to change locations frequently.

“Chefs, at least chefs of upscale restaurants, are a moving target. You may line up a chef that really likes your product, maybe buying so many pounds a week. And then a couple months later he’s moved on to a different restaurant... The restaurant market is very tough in that respect. It’s a swirling miasma of problems. And I’m glad I don’t have to deal with it any more.” — Prairie Grove Nut Growers marketing coordinator

Diversity of markets. While high-quality, fresh, large, minimally processed nuts are usually the most profitable, having other products has helped these businesses diversify their customer bases and stabilize their income streams. For example, Chestnut Growers, Inc. has benefitted from a diverse set of buyers who want different nut sizes.

Missouri Northern Pecan Growers prefers a diverse customer base as a strategy to minimize supply chain disruptions. Wild fluctuations in the conventional wholesale pecan market impacted their sales between 2006 and 2012. During this time, China went from purchasing almost no pecans to purchasing a third of the U.S. crop, almost tripling the price of pecans. Then, in 2012 the bubble burst and prices plummeted. Missouri Northern Pecan Growers was able to weather this disaster, largely through product differentiation and market diversity.

Lessons learned

The enterprises highlighted in this report have taken different approaches to business organization, processing and marketing. At the same time, they have navigated similar issues, and common themes cut across their experiences.

Organization. All of the nut growing enterprises found significant value in working together, whether organized as a corporation, LLC, cooperative or sole proprietorship. Each structure offers unique advantages depending on the goals and resources of the group. These businesses benefited from collectively setting goals and objectives, determining the resources they could commit to building a business, and choosing which business structure would best help them succeed.

Start-up capital. Some of these enterprises—in particular the cooperatives and LLC—discovered advantages to requiring up-front member contributions. This investment provides start-up capital and weeds out growers who are not serious about working together.

Labor needs. Some businesses rely heavily on one or two growers to carry out all management, marketing and processing, which results in burnout. For many growers, nut production is not a primary enterprise, and they don't have time to manage a nut enterprise. The businesses that plan to pay for management are stronger and more resilient.

Infrastructure. Some of these enterprises developed strategic partnerships for renting processing space or sharing equipment with others in the start-up phase of operation. This can be a cost-effective strategy to test the market without the burden of large capital investments. Having access to cold storage can be a key way to deal with year-to-year fluctuations in harvests.

Product differentiation. Whether based on location, organic certification, unique flavor or other special characteristics, differentiating their products from commodity nuts is important for all of the enterprises. Communicating the traditions and unique qualities of their products allows them to set a higher price than their competition. Crafting a story takes time, but is an important part of adding value to a product.

Value-added products. While whole, fresh nuts were usually the most profitable product for these businesses, some found that adding value to small and broken nuts made sense. Likewise, taking waste products such as hulls and shells and turning them into marketable products stabilized their income stream and diversified their customer base. However, the interviewees stressed that whole nuts are the best product for start-up businesses, as the infrastructure required for adding value can be cost prohibitive.

Diverse markets and consumer education. While nuts grown in the Midwest have unique and desirable qualities, they are not the nuts that most U.S. customers are familiar with and seek out at the grocery store. Strategies such as tasting events and free samples can introduce customers to new products and varieties. Ethnic markets can prove lucrative for some nuts, such as Chinese chestnuts. Chefs can introduce restaurant customers to midwestern nuts and the growers who raise them, but restaurants don't provide a stable, long-term market.



The interviewed nut businesses have navigated similar challenges, and their experiences offer helpful lessons.

Photo: Hammons Products Co.