MICHIGAN STATE

Fostering Farm-to-MSU Efforts: Research to Guide Closer Ties with Michigan Agriculture

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EXECUTIVE SUMMARY

Overview

With the development of its Farm-to-MSU Guide (see appendix), Michigan State's University Food and Dining Services (UFDS) has demonstrated growing interest in sourcing more locally. The specific objective of this study was to learn about current local food purchasing practices at MSU and develop options and models that could enhance and strengthen MSU's engagement in buying local and Michigan-produced food items. The study, conducted by researchers from the C.S. Mott Group for Sustainable Food Systems at MSU and the MSU Product Center for Agriculture and Natural Resources, focuses on UFDS's organizational structure, procurement policies and approaches, supply chain structure, current buy-local practices and future opportunities. We conducted interviews with UFDS entities and its current suppliers, reviewed relevant buy-local practices applied at other universities, and analyzed purchase data with an eye toward identifying opportunities for and obstacles to increased purchase of locally grown foods to assist UFDS in its goal of increased local food use.

UFDS structure and procurement policies and procedures

MSU Food Stores plays a critical role in food procurement, acting as a conduit between food manufacturers, brokers and distributors, and on-campus food service branches (MSU Bakers, Concessions and Catering; Sparty's convenience stores; the Kellogg Center; and the largest entity, University Housing Dining Services), as well as ensuring compliance with university, local, state and national regulations and requirements. Food Stores, as the central point of control, approves vendors and supervises the invoicing, ordering, payment and delivery of food products. Overall, UFDS's food procurement procedures focus on vendors' ability to provide the right quantity, type and quality of products at the right price; continuity of supply of food products throughout the academic year; suitability of the product/service ordering, transportation and logistics system; and requirements of Food Stores' on-campus customers.

Supply chain practices and experiences

In the current structure, food products should pass through shippers/packers, processors and distributors before reaching MSU Food Stores. Food Stores works with more than 300 food manufacturers and distributors, as well as a number of brokers. These actors serve as intermediaries between packers/shippers and farmers/producers. Food Stores purchased approximately \$22 million in food and supplies in 2006-07. Although the vast majority of MSU Food Stores' purchases currently originate in other states and regions, some of the fresh market produce, meat and dairy products come from Michigan producers. Annual purchase of Michigan products in recent years is estimated at \$430,000.

Food Stores and its suppliers are concerned primarily with food quality and safety, reliability and quantity of supply, and efficiency in minimizing transportation and transaction costs. Most supply chain actors have favorable opinions of Michigan products but believe their seasonality and limited availability constrain their broader use. Other constraints to increased use of Michigan foods include UFDS's use of processed (chopped, shredded, diced, etc.) produce and the high demands placed on farmers, including insurance, handling and traceability, which create a significant cost, particularly for smaller scale farmers in the state.

Local purchasing at other universities

The study outlines case studies of three other major universities engaged in local purchasing efforts: Massachusetts-Amherst, Minnesota and Michigan. The case studies indicate different local purchasing initiatives by these universities: direct purchase from farmers for campuswide use at Massachusetts-Amherst, local sourcing through large distributors at Minnesota and a smaller pilot of direct purchase from farmers at the University of Michigan. Among the best practices identified from these examples are gaining institutional support and setting goals, starting small and building upon successes, and partnering with local organizations.

Toward a farm-to-MSU program

Many facets of the UFDS's procedures and practices create barriers for increased purchase of local food, including reliance on a small number of primary vendors (particularly for produce) and those vendors' reluctance to commit to source locally. Given the broad benefit to the state's economy and the cost of changing procurement practices, the study suggests a number of ways in which these costs and benefits can be equitably shared by a wide array of actors, including state government, MSU Extension and the College of Agriculture and Natural Resources, state economic development funds and private enterprises. We also propose ways in which MSU can provide state and national leadership to farmto-institution programs.

The study identifies three potential supply chain structures that could enhance UFDS's procurement of local food items, each with a set of benefits and obstacles:

- *Purchase directly from farmers* would facilitate communication and long-term relationships, permitting purchase of specific items in specific forms and coordinating plantings to service this market. Given the small number of farmers with the capacity to grow the quantities required by MSU, farmers may need to pool resources and coordinate invoicing, delivery and other logistics.
- *Purchase from producer associations/cooperatives* would address many of the logistical issues of the previous model while maintaining close communications.

Such organizations are currently limited in Michigan. It is suggested that UFDS can collaborate with MSU entities such as the Product Center or non-profits that can facilitate their formation and growth. UFDS can utilize some of its net income to leverage these activities.

• *Purchase from current vendors* would allow MSU to use its current ordering, billing and payment system. Communications and relationships with farmers would be more limited, and MSU would need to work with the vendors to recruit farmers and prioritize local purchases.

In the long term, creating a financial support program focusing on sourcing of Michigan products or the formation of local food supply groups and intermediaries will help increase purchases of these products. Long-term benefits to the local economy could justify increased public funds to the university. Because of MSU's landgrant status and its strong ties to Michigan agriculture, a farm-to-MSU program can be easily tied to its overall mission. However, certain changes by both MSU and its vendors are needed to create a sustainable farm-to-MSU program.

MSU must make a fundamental change in its purchasing culture that will require administrative support and a redefinition of mission, vision and values. Full integration of a farm-to-MSU program within the UFDS requires implementation of the current draft farm-to-MSU guidelines, the creation of a farm-to-MSU program coordinator position, and the development and implementation of a baseline and specific goals for purchasing Michigan products on an annual basis. Additionally, providing more autonomy and assistance to chefs, concessions and hotel managers would increase purchases of Michigan products.

Producers need to adopt new and better production and farming practices and product delivery mechanisms to provide the quantity and quality of food items needed by MSU Food Stores, and to introduce some seasonextension practices and appropriate storage and transportation facilities. Future supply of Michigan-produced food items to MSU will be governed by UFDS's farmto-MSU policy and guideline. The study suggests that a two-year transition period could lead to the creation of a viable and sustainable farm-to-MSU program. Current experience and Michigan product availability suggest that, in the short term, MSU could target seven food items: lettuce, salad mix, tomatoes, potatoes, turkey, fluid milk and apples. These products could be purchased using a combination of current and new supply chain structures. Given commitment from Food Stores to purchase these items in season and farmers' use of season-extension and storage technologies, we project that MSU could, within two years, increase purchases of these Michigan-grown items from \$430,000 to \$664,672. The proportion of the five produce items grown in Michigan would increase to about 27 percent of the total outlay for these items. As the farm-to-MSU program becomes institutionalized, we expect the purchase of locally grown food to continue to grow. If MSU could purchase 24 percent of all its products locally (not just the seven items discussed above), this would contribute \$5.2 million to the state's economy. These improvements in total output will create additional jobs and/or help producers retain existing labor.

INTRODUCTION AND PROBLEM SETTING

University Food and Dining Services (UFDS) at Michigan State University (MSU) spends nearly \$22 million annually on food and associated supplies. Its largest entity, University Housing Dining Services (UHDS), serves up to 35,000 meals a day in its dining halls. UFDS also operates Food Stores, which connects its on-campus customers with its suppliers. As such, it has the potential to contribute substantially to Michigan agriculture by providing a stable venue for the state's diversity of food products.

MSU internal and external community members have urged the university to place higher priority on purchasing Michigan-grown products. In response, Doug Buhler, of the Michigan Agricultural Experiment Station, and Mike Hamm and Chris Peterson, College of Agriculture and Natural Resources, committed to develop a study investigating opportunities for closer linkages between UFDS and Michigan food producers and agrifood businesses as well as to learn more about current MSU purchases of Michigan food products to improve connections and create the needed mechanisms and infrastructure.

The study utilizes an integrated approach to understanding existing supply chains, MSU's needs and product availability to demonstrate opportunities for and obstacles to greater institutional use of Michigan foods. The goal is that these findings will help to create a system that is sustainable and applicable to all Michigan products and a model that other institutions can utilize to purchase more local foods, thereby providing lasting benefit to the economy of Michigan.

In tandem with these developments, UFDS has developed the Farm-to-MSU Guide (see appendix), which lays out a vision of MSU support for sustainable agriculture and the food system in Michigan. This guide demonstrates UFDS's desire to enhance greatly the impact it has on the environment and Michigan's economy. If implemented, it would clearly establish MSU as a national leader in this arena. Much of the purpose of this study is to suggest ways by which UFDS can reach the goals outlined in the document. The guide defines "local" as within a 250-mile radius of campus and "regional" as within a 600-mile radius. This study focuses mainly on areas of Michigan within 250 miles of campus. This area touches all counties in the state's Lower Peninsula - a reasonable boundary for the focus of this study, given MSU's commitment to the state as its land-grant university and the Upper Peninsula's relatively low level of agricultural production.

The resulting project is a collaboration of the C.S. Mott Group for Sustainable Food Systems at MSU and the MSU Product Center for Agriculture and Natural Resources. The three authors of this report — Abatekassa, Conner and Matts — were commissioned to conduct research that would highlight opportunities for greater use of Michigan-produced foods in MSU dining services. The project began after securing funding from the Michigan Agricultural Experiment Station, the C.S. Mott Chair for Sustainable Agriculture at MSU and Project GREEEN.

APPROACH

The project utilized two distinct but complementary approaches: interviews of those currently (and potentially) involved in the supply chain of Michigan products to MSU, and analysis of purchase and sales data from participating vendors and MSU entities, and analysis of agricultural census data. In total, we conducted 15 interviews, including representatives of various MSU entities: Food Stores, University Housing Dining Services, Concessions, convenience stores and the Kellogg Center. Also interviewed were two produce distributors, three brokers of food products, three broker-shippers, a processor and a farming family. Interviewees were contacted either by phone or e-mail; all interviews took place in person, usually at the person's place of providing business. All interviewees read and signed a consent form explaining the purpose of the study and our procedures to protect confidentiality, and providing contact information for the researchers. The form also gives the contact information for MSU's institutional review board, which reviewed and approved the research protocols (IRB#X07-725).

Under the human subjects protocols of our study and its confidentiality provision for the participants, we do not use any individual's or company's name. We use the term "vendor" as the most generic description of a person or business involved in the supply chain. Where a more precise description is needed, we use the following terms: distributor (a business that delivers products, including fresh produce, to MSU); shipper (a produce middleman who delivers produce to distributors and whose tasks may include brokerage, consolidation and repacking); processor (chops, shreds or otherwise processes fresh produce into another form); broker (represents one or more food manufacturers and provides marketing interface between MSU and the company); and farmer/producer (produces food products and sells them to one of the aforementioned buyers).

A snowball sampling method was used, beginning with MSU Food Stores. A list of 19 major vendors was provided. We chose six who handle a variety of products that can be produced in Michigan. In interviews with distributors, we identified four businesses that supply Michigan products; these businesses were then contacted and interviewed. One vendor that agreed to be interviewed then cancelled the appointment and did not respond to requests to reschedule. Otherwise, everyone we contacted granted an interview.

The interviews were semistructured, beginning with basic questions on business history, behaviors and experiences in supply chains of MSU and Michigan products. Key questions addressed products sold, the structure of the supply chain in which the business operates and the firm's function within that chain, its relationship with MSU (or the MSU vendor to which it sells), attitudes and experiences sourcing local products, and perceived obstacles to local sourcing. Each interview took between one and two hours. Each researcher took extensive notes, and an electronic file summarizing each interview was created. The notes and summaries were examined to identify key themes as well as attitudes, beliefs and behaviors that might highlight opportunities for and obstacles to greater use of Michigan foods in MSU dining services.

The other approach involved analysis of existing purchasing data. We acquired quarterly purchase data from MSU Food Stores detailing the purchased quantities of fresh produce items each quarter from 2005 forward. All the produce items bought by MSU were entered into a spreadsheet. Annual and quarterly totals over time were calculated. Secondly, the marketbasket of foods purchased by MSU Dining Services (the largest customer of Food Stores) was also analyzed. These data sets were examined to develop a baseline of current purchases and benchmarks for potential future purchases of MSU food products. Finally, agricultural census and rotational survey data from the Michigan field office of the USDA National Agricultural Statistics Service were compiled for seven key food items (lettuce, salad mix, tomatoes, potatoes, turkey, fluid milk and apples) to measure the capacity of Michigan to supply those products and the potential impact of MSU purchases on the state's agricultural economy. These items were chosen as examples to examine and articulate possible supply chain options and concomitant needs. All these data were examined with an eye toward identifying opportunities for UFDS to meet its proposed goals of purchasing local, sustainably raised products as well as to develop a protocol for identifying additional products and benchmarks in the future.

ORGANIZATIONAL STRUCTURE

The organizational structure of UFDS's operations is influenced by purchasing policies and regulations that must be followed, choice of food products and vendors, and purchasing and delivery arrangements that food services need to make with their vendors. A primary role of Food Stores, a main conduit for MSU to its food suppliers, is to ensure compliance with university, local, state and federal rules and regulations.

- Food Stores at MSU is a self-managed, universitywide operation that is responsible for providing food services to students, faculty and staff members, and the MSU community at large. As stated on its Web site, the goal of MSU Food Stores is "to consistently procure the quality and quantity of goods/services required by the customer base, at the right time, and at the best price, governed by the University's Policy and Procedures." ³
- The management and procurement team at MSU Food Stores is involved in purchasing, warehousing and distributing food products.
 - o The team is responsible for "*obtaining specified* products and services based on quality, quantity, service, and competitive market prices." ⁴ The types of products are determined by the needs and requests of Food Stores' customers.
 - o The team enters contractual agreements with manufacturers, distributors and specialty product suppliers who want to sell food products to the university.
 - o The team provides support and leadership to a wide range of on-campus customers. Its approval and authorization are needed for any type of food and beverage product to move within the university system, as per university regulations. In providing these services, MSU Food Stores must comply with federal, state and local food procurement guidelines and regulations.
- MSU Food Stores' operation is expected to generate a net income in excess of expenses, and it maintains reserves for anticipated and unexpected costs. Its annual food and associated supply-purchasing expenditures are approximately \$22 million.

- MSU Food Stores is required by the university to own its inventory to assure on-time product deliveries to its customer base. Therefore, it manages and operates a relatively large (50,000 square feet) food store that provides food warehousing and distribution services.
- The customer base for MSU Food Stores includes on-campus customers such as the University Housing Dining Services, MSU Bakers, Sparty's Cafés, the Kellogg Hotel and Conference Center, and MSU Concessions and Catering. These customers use MSU Food Stores as a focal point for planning and ordering food products, and Food Stores works with their account representatives to make purchasing decisions.
- Once Food Stores makes purchasing decisions, selects vendors and completes contractual agreements, oncampus customers can either purchase food from Food Stores or make orders directly from approved and selected vendors. With the exception of the Residence Hall Dining Services, it is estimated that about 70 percent of the food products to MSU come through Food Stores; the remaining 30 percent are delivered directly to on-campus customers. Residence Hall Dining Services purchases almost all food products through Food Stores.

Below are brief descriptions of key on-campus customers and branches that contribute to MSU's food and dining services program:

MSU Bakers: The MSU bakery manufactures and sells a wide range of baked items, including cakes, cookies, special occasion gift packages and holiday items to oncampus food service locations (e.g., University Housing Dining Services, Sparty's Cafés, Kellogg Hotel and Conference Center, Concessions and Catering) and the surrounding MSU community. Off-campus customers include sororities and fraternities located near the university. Orders are made on a daily basis (two business days prior to delivery), and deliveries are made on weekdays

University Housing Dining Services: MSU University Housing Dining Services (UHDS) is one of the largest operations of its type in the country. It serves approximately 35,000 meals per day during the academic year.⁵

³ http://www.hfs.msu.edu/procurement/procuremanual.html.

⁴ http://www.hfs.msu.edu/procurement/aboutus.html.

⁵ http://food.hfs.msu.edu/.

Dining services are provided in 14 on-campus residential facilities divided into five geographic dining zones.

- Most food purchases for the UHDS are made through MSU Food Stores, which manages bidding and procurement guidelines and operations. The vast majority of purchases are made on contract to ensure supply, control costs and gain long-term cooperation with vendors, who invest equipment or personnel in the MSU account.
- Meal plan development at MSU is centralized and is the responsibility of the UHDS management office. Chefs and managers in each dining hall provide input and participate in the menu development process yet have limited authority and autonomy to develop and adjust their own menus.
- Recently, Residence Hall Dining Services has introduced unlimited meal plans that provide students with unlimited access in all dining halls across campus. Students can enter a dining room anytime during the regular posted hours (mainly from 7 a.m. to midnight) to eat a complete meal or stop in for a snack. During the transition period, current students also have access to other meal plans (i.e., plans in use when they arrived on campus).

MSU Concessions and Catering: MSU Concessions provides food and non-food services to visitors and spectators at a wide variety of on-campus events, including athletic events (e.g., MSU football, basketball and hockey games), alumni functions, agricultural shows (e.g., the annual Ag Expo), concerts, conferences and other special events. Football games produce about 45 to 50 percent of concessions sales.

• This unit purchases all food items from approved vendors. It reports its food-related activities directly to MSU Food Stores. Most food products are delivered directly to the concession or event location.

Kellogg Hotel and Conference Center: Food and non-food-related services at this on-campus hotel are administered and monitored by MSU Food Stores.

• Most of the hotel's food purchases (approx. 95 percent) are made through MSU Food Stores. The remainder, in particular items that vary in quantity of use or otherwise require order flexibility, are ordered

directly from approved vendors. The food is mainly used in the State Room, a fine dining restaurant in the hotel.

- The hotel's menu plan changes on the basis of a fourmonth seasonal cycle, with a focus on food items that are readily available during the season.
- Food items come to the hotel either through MSU Food Stores or directly from the vendors.

Sparty's Cafés: Sparty's Cafés provides a wide range of specialty coffees and teas and food items including salads, sandwiches, snacks and a variety of bakery items Approximately 8,000 customers per day are served at 19 locations across the MSU campus (including residence halls, libraries, and various colleges and departments). Sparty's Café manages the International Center Food Court contracts (Woody's Oasis, Subway, etc). These resturants serve about 800 customers daily.

Sparty's operations are administered and monitored by MSU Food Stores. Food Stores makes all food purchase decisions, enters contractual agreements with vendors, and handles invoicing and payments for food items that are delivered to various Sparty's Cafes locations.

PROCUREMENT POLICIES AND PROCEDURES

MSU Food Stores is the central point of control for all food purchases. It has primary responsibility for the quality and, in particular, the safety of all food served by UFDS institutions, as well as compliance with all pertinent federal, state and local laws and universitywide regulations (outlined in the Manual of Business Procedures or the 1999 federal and state food codes). Food Stores has established policies and procedures regarding selection and approval of vendors, food delivery procedures to on-campus customers, and food quality and safety.⁶ These policies and procedures provide guidance to vendors, producers and other potential suppliers as well as to the managers of the dining halls and other auxiliary food service operations within the university. The

 $^{^{6}\} http://www.hfs.msu.edu/procurement/procuremanual.html.$

following are some of the major procurement procedures and general criteria that MSU Food Stores applies while making food purchase decisions and selecting vendors:

- Food Stores, MSU's sole food procurement and distribution source, is responsible for acceptance/refusal of food products, approval/disapproval of vendors, and authorization of orders and payments.
- Food Stores prefers one-stop shopping. It is interested in buying various types of products at one time from relatively few vendors; fruits and vegetables are a good example. Currently, these products primarily come from just two distributors.
- The customer base, the need for annual or multiyear contractual agreements, and expectations of future competition for the product determine the number of vendors to use for a product or service.
- Food products at MSU are delivered either to the central Food Stores facility or directly to its customer base within the university. Vendors should have an organized transportation and logistical system in place to deliver products on time at the desired location. MSU Food Stores, working with its customer base, determines which products are designated for warehousing or for direct delivery to individual customers.
- Food Stores purchases food products from manufacturers and distributors that are widely known and have gained a business reputation for product quality, quantity, food safety, logistics and other related services.
- Ease of ordering is the other key criterion in selecting vendors. MSU currently uses a Web-based product ordering and invoicing system. Vendors need to have a computerized system for receiving orders, invoicing and delivering products.⁷
- University policy requires MSU Food Stores to solicit competitive price bids. The fact that prices are generally based on current commodity prices provides the basis to develop annualized formulas for long-term contracts. Invitations for bids are issued only to approved vendors, with that approval being granted through various professional panels and/or forums. MSU Food Stores utilizes a set of questionnaires and forms to solicit information from farmers on produc-

tion and handling and storage practices. MSU conducts an audit covering the physical, chemical and microbiological attributes of each product. All products are expected to meet or exceed predicated specifications such as quality, count, weight, temperature and rotation.

- Major criteria used in determining and selecting products, services and vendors include initial product/ customer review screening, test kitchen evaluation and systemwide test programs. Some key requirements to become an approved vendor are:⁸
 - o Product guide of available merchandise, including the nature of the vendor's products/services.
 - o Contact information, including Internet address and business license.
 - o A statement of personal interest within the university.
 - o Certificate of insurance naming MSU as a covered party; liability and hold harmless coverage; terrorism coverage; workers' compensation coverage. Vendors are required to hold an insurance coverage with a minimum limit of \$2.5 million in the following categories: workers' compensation insurance (\$500,000), automobile liability insurance (\$1 million), and commercial general liability insurance (\$1 million).
 - o Method of payment options required by the vendor; payment terms.
 - o If the vendor is a manufacturer or grower, two recent inspection reports; HACCP (Hazard Analysis at Critical Control Points) program document, if applicable; methods of delivery to MSU via temperaturecontrolled environment.
 - o Inspection by MSU is required if the vendor is a food manufacturer or grower.

These vendor approval criteria and procurement procedures are continually reviewed, evaluated and updated.⁹ Other specific procurement requirements are added as needed, depending on the nature of the product or service.

⁷ http://food.hfs.msu.edu/.

⁸ MSU Food Stores letter to vendors (dated August 1, 2007).

⁹ http://www.hfs.msu.edu/procurement/procuremanual.html.

Overall, MSU's food sourcing and procurement procedures focus on the following issues:

- Vendors' ability to provide the right quantity, type and quality of products at the right price.
- Vendors' ability to provide continuity of supply of food products throughout the academic year.
- Suitability of the product/service ordering, transportation and logistics system.
- Requirements of Food Stores' on-campus customers.

In line with this, UFDS has developed a farm- and production-practice food safety questionnaire and is completing the aforementioned Farm-to-MSU Guide (see appendix), which includes the definition of "local" as well as goals and the importance of the program to MSU. The Farm-to-MSU Guide addresses major issues that need be tackled in its five-year plan to strengthen the program.¹⁰ These include incorporation of sustainably raised products in dining services; strengthening educational and promotional programs within the university food system on sustainable, local and organic food products; and implementation of "dining boutiques" offering sustainable products year round.

CURRENT FOOD SUPPLY CHAIN PRACTICES AT MSU

On their way to MSU, food products move through a relatively long marketing channel. The MSU food supply chain is composed of four broad stages: the producer, packer/shipper and/or ingredient supplier, manufacturer/distributor and MSU Food Stores. Supply chain actors at each stage need to meet a variety of procurement requirements and procedures to supply food to MSU. A simplified version of the current MSU food supply chain is shown in Figure 1. The diagram represents the following description of the supply chain and its actors.

Manufacturers and distributors. MSU buys food products from large national and regional food manufacturers and distributors. Currently more than 300 companies are selling food to MSU, such as Sysco, Tyson, General Mills, Kellogg, Pilgrim's Pride, Sara Lee, Pillsbury, Coastal Produce Distributor, Country Fresh, Great Lakes Gourmet, Zingerman's, Superior Seafoods, Burdick Meat Market, and S. Abraham and Sons. These companies are delivering food to MSU Food Stores for warehousing or, with the approval of Food Stores, directly to its oncampus customers.

- MSU has short-term, annual or multiyear contracts with its vendors. Initial contracts are usually for three to six months or one year, which is considered to be a trial and test period. Multiyear contractual agreements are entered on the basis of long-term needs for the product and service, and evaluations of the vendor's ability to meet various food quality, safety, logistics and price requirements. In most cases, long-term contractual agreements do not exceed a three-year period, and they are revised and reviewed annually or as pricing changes (typically six to12 months for most items; protein items, having more volatile prices, have more frequently revisited contracts). In cases where the vendor makes a large investment related to supplying products to MSU (e.g., materials or personnel), longer term contracts are used.
- Despite the seemingly large number of listed vendors, MSU receives most of its food products from very few primary vendors. Some manufacturers and distributors are used as backup suppliers when primary vendors are temporarily unable to meet MSU Food Stores' product needs.
- As shown on the diagram, the UHDS and all other on-campus customers, as per university policy, do not have the authority to approve vendors and enter contractual agreements with them. They have, however, the autonomy to select vendors from the approved list.

Brokers. These are independent firms or individuals that represent farmers, packers/shippers, manufacturers or distributors in selling their products to food service buyers, retail customers, or other supply chain actors at the local, regional, national and international levels. Their responsibilities include price negotiation and product promotion. They do not take ownership of the product. Their services are retained by commission fees. Brokers play a significant role in moving food products within the MSU supply chain.

¹⁰ Farm-to-MSU program guide: draft document.

- They work with MSU to promote the introduction of new products, ingredients and/or menus.
- They help manufacturers and distributors to expand their markets through MSU's food system.
- Without circumventing MSU's food procurement policies and procedures, they help the university in filling temporary gaps when some vendors are unable to supply products.

Packers and shippers. Independent packers and shippers own packaging and storage facilities (mainly for fruits and vegetables) that perform postharvest handling operations and help assemble, wash and pack produce. In the current food supply chain structure, these actors do not have direct engagement with MSU Food Stores. Rather, their products have access to MSU through large regional and national distributors. They have to meet a wide range of requirements while selling products to these distributors.

Farmer/producers. At the bottom of the supply chain structure are producers. The current MSU food supply chain favors producers who can supply food products through the conventional supply chain system. Their products come to MSU after passing through shippers/packers and distributors. Distributors favor producers that provide additional services and meet specific product purchase and delivery requirements.



Figure 1. MSU Food and Dining Services' organizational and supply structure.

CURRENT PURCHASE OF MICHIGAN PRODUCTS AND THEIR SUPPLY CHAINS

MSU Food Stores spent approximately \$22 million in fiscal year 2006-07 for food and non-food supply items purchased and distributed to all its customers. Out of this, total food expenditure by UHDS was estimated at \$16.6 million (Table 1). Proteins and frozen and refrigerated products had a combined 50 percent share of the food expenditure. Excluding frozen products, the dining service spent about \$2.1 million on produce and \$800,000 on dairy products.

Table	1. For	d expend	iture by	the UHDS.
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Product category	Total expenditure	Expenditure share (%)
Dairy	\$0.8 million	4.62
Produce, all items	\$2.1 million	12.9
Proteins ^a	\$4.6 million	27.9
Frozen and refrigerated ^b	\$3.8 million	23.4
Baked goods	\$1.8 million	10.7
Supplies and dry goods	\$3.4 million	20.4

^a Includes beef, pork, poultry, fish and vegan.

^b Includes vegetables, fruits, pastas, dairy, eggs and bakery.

Although the vast majority of MSU Food Stores' food items currently originate in other states and regions, some of the fresh market produce, meat and dairy products come from Michigan producers. Following are descriptions of current supply chains for five food items originating in Michigan and sold to MSU via various market channels in the past few years.

Milk. Currently, all fluid milk products at MSU come from Michigan producers. In 2006-07, MSU purchased about 216,000 gallons of fluid milk (\$200,000 value) in a variety of packages (from half-pints to 5-gallon dispenser bags). The supply chain for the product is relatively simple. All fluid milk comes from one main vendor (except small quantities in emergencies). The vendor is part of a large U.S. dairy company that markets dairy products focusing on local brands. All the milk from this purveyor comes from Michigan cows via two main cooperatives that operate in Michigan and in neighboring Midwest states. No broker is involved in distributing milk. Milk trucks pick up milk at farms and transport it to the bottling plant, where it is pasteurized/homogenized, packaged into cartons or dispenser bags, and delivered to MSU. Delivery is made five to six times a week. Purchase arrangements with the company are based on competitive bids and contractual agreements. Price is one of the key criteria in the negotiation process. Other dairy products bought from this company include sour cream and cottage cheese. Two major advantages of the current vendor is its ability to provide extensive service (delivering to every dining hall, in every size container) and tolerance of extreme fluctuations in MSU's demand (e.g., high in fall, very low in summer).

Turkey. In 2006-07, total turkey meat products purchased by MSU amounted to \$175,000 (126,000 pounds). Almost all turkey meat products delivered to MSU originated from Michigan producers. Again, the supply chain for this product is a fairly simple one. The vast majority (about 90 percent) comes from a single vendor, which says it could easily increase the sales if MSU desired. The remaining 10 percent is purchased from various distributors, but much of the product is still assumed to originate from the same vendor. MSU currently buys about 11 kinds of turkey meat products. Main turkey meat items bought at MSU include raw turkey and cooked, sliced turkey breast; most of these items are sold in frozen forms.

Turkeys for the vendor are produced on one of 43 farms (all but one in Michigan) and transported to the processing facility, where they are slaughtered, parted and chilled. From there, if it is a raw product, it is further processed (ground, spiced, etc.), packaged and frozen, or, if a cooked product, it goes to another plant, where it is baked, packaged and frozen. Cases are loaded onto a skid and then onto a truck, and delivered to MSU Food Stores. MSU currently places an order every three to six weeks with this purveyor, ordering about 8,000 to 10,000 pounds each time.

Apples. Annually, MSU buys about \$100,000 worth of fresh market apples. These apples originate both from out-of-state and from Michigan sources. UHDS's purchases of Michigan apples has steadily increased, from 39 cases in 2002 (about 2 percent of total fresh apples)

to 1,033 cases in 2005. By 2006, Michigan apples accounted for more than half (57 percent) of fresh apple purchases by UHDS (Figure 2).



Figure 2. MSU Dining Services apple purchases.

MSU sources Michigan apples from two main produce vendors; one, located in western Michigan, appears to have a better network established. Michigan apples are picked on Michigan farms, then loaded into bins and taken to the packer/shipper. There they are sorted and graded, with most of them going into controlledatmosphere storage until needed. Vendors provide MSU access to a given number of varieties throughout peak season. MSU continues to source Michigan apples until the quality falls off in May. Certain varieties not grown in Michigan (e.g., Granny Smith) make up a large proportion of out-of-state apples.

Potatoes. MSU buys fresh potatoes worth \$50,000 on an annual basis. Almost all fresh potatoes are purchased through a produce distributor and currently originate from out-of-state producers. The distributor currently sources potatoes from a Michigan farm, so these potatoes could potentially come from Michigan and be identified as such at point of consumption. However, MSU has not purchased Michigan potatoes from this primary distributor over the past several months. Past efforts to source Michigan potatoes were marred by quality and specification issues. As the annual purchase data show, MSU purchases few fresh potatoes in the whole form — the majority of potatoes come in flakes (mashed) or frozen (fries).

Lettuce and salad mix. MSU buys lettuce worth about \$250,000 annually but currently does not buy Michigan lettuce. MSU mostly buys processed lettuce from out-of-state producers. However, one MSU dining hall is now buying fresh salad mix from MSU's Student Organic Farm (SOF) — about 15 pounds of salad mix per week are being delivered to Landon Hall. This project began in March 2008 and will continue through the school year on a trial basis. All greens are grown at the SOF and are certified organic. This initial production is intended as a pilot and may be shifted to Yakeley Hall, which appears better suited in size, resources and customer base to host a local-organic salad bar. The SOF also plans to build a dedicated hoophouse (passive solar greenhouse) with all crops going to the dining hall. It is hoped that this will form the basis for encouraging other growers in the area to produce for MSU. The SOF was inspected by MSU's sanitarian and as an MSU entity is insured by the university.

SUPPLY CHAIN ACTORS' ATTITUDES, BELIEFS AND EXPERIENCES

The following attitudes, beliefs and experiences of supply chain actors on moving food products from farm to MSU come out of interviews with 10 people representing five entities in the supply chain.

MSU attitudes and experiences

A number of important attitudes, beliefs and behaviors were revealed by our interviews with representatives of MSU Food Stores and its on-campus customers (e.g., UHDS, MSU Concessions, convenience stores and the Kellogg Center).¹¹

First, there is a great deal of respect for Food Stores among MSU customers. They agreed to our interview re-

^{*} Note: 2006 data is from 7/1/06 to 2/23/07 only.

¹¹ We use the term "customer" to refer to MSU entities that procure supplies from Food Stores.

quests without hesitation and on the whole appeared to be forthcoming and eager to talk. The customers appear willing to trust Food Stores' lead in trying new items and approaches. To this extent, having a champion in Food Stores will go a long way toward increasing purchases of local and sustainably raised foods. Its credibility and dedication are absolutely essential to achieving this goal.

That being said, clients' enthusiasm and belief in Food Stores' ability to source local foods were very mixed. One customer discussed a bad experience trying to source local organic foods, citing poor quality ("dirt clods on the potatoes"), high costs and overall apathy from students. One customer associated local food as being from farmers with "dogs riding in the back of the truck," which he obviously finds unacceptable. An early experience sourcing Michigan apples ended similarly.

There has been no systematic approach to gauging student demand for local or organic foods. UHDS, for example, conducts occasional focus groups to gauge student interests and tastes but generally relies on observations of what they actually eat rather than what they say they want. For example, students say they want fresh and healthy food but often ultimately choose to eat chicken nuggets and fries. The customer believes students associate "fresh" with food being prepared in front of them, not out of a box, under a heat lamp, etc. Newly constructed dining halls are moving toward this fresh preparation model. However, the entities at MSU make almost exclusive use of processed vegetables (e.g., shredded lettuce, diced onions, cubed squash); only hand fruit and a few other vegetables (eggplant) arrive in whole form.

One customer, however, has had great success working with a local vendor. This vendor provides baked goods, and the customer notes the vendor's exceptional efforts to tell its story and promote and build excitement about the products. This vendor, they say, is exactly the type with which they can grow.

Some of the early troubles with apples appear to have been worked through as well. Michigan apples are now promoted through a number of events, such as "Apple Week" in the dining halls, with signage supplied by the Michigan Apple Committee. These efforts have resulted in increased consumption of Michigan apples by dining hall customers. A number of observations were made about MSU Food Stores. First, one interviewee felt that the fact that MSU runs its own food service (rather than outsourcing to a provider such as Aramark or Sodexho) is seen as creating much more opportunity for local foods. The purchase decisions are made at MSU, not at a corporate headquarters. On the other hand, the purchase decisions are seen as being fairly restrictive. A chef cannot go to a farmers' market, buy what looks good and run a special (despite interest in doing so) because purchases of local foods are constrained to what is available from approved vendors and must be done through Food Stores.

Attitudes, experiences and behaviors of vendors

Vis-á-vis our goal of increasing MSU's use of Michigan food products, a number of themes emerged from our interviews with vendors highlighting important attitudes and behaviors that helped us identify opportunities for and barriers to Michigan food products, and needed institutional changes. Five major themes emerged from our interviews:

- Food quality and safety.
- Reliability and quantity of supply.
- Logistics (efficiency; holding down transportation and transaction costs).
- Pricing.
- Relationships among agents.

Interestingly and not surprisingly, the first three themes were cited by MSU Food Stores as the most important considerations for their purchases. We will conclude this section with observations on how these findings affect choices of vendors and business practices, and the opportunities and obstacles they create.

Food quality and safety

If one product attribute is primary to these vendors, it is quality. One said, "MSU has high standards, and so do we." One shipper stated that a buyer's priorities are, in order, a quality product, then convenience of ordering and distribution, then price. A farmer said that "quality sells itself." A distributor similarly noted that the first concern is quality. Part of this emphasis on quality may reflect MSU's emphasis on quality and the types of business it therefore deals with. On the other hand, it is difficult to imagine any vendors saying they sell low quality goods, though some accuse their competitors of selling low quality products and sullying the reputations of all.

Grades and standards begin to capture this quality attribute but do not do so completely. For example, a produce supplier said it sells only #1 grade. A shipper pointed out, however, that grades are really a floor. For example, an extra fancy apple must be two-thirds red, but in reality, any apple that is less than 90 percent red will not be acceptable to customers. One distributor appears to have two tiers of quality: a given grower may pack into the distributor's branded boxes only if the produce is of very high quality. The distributor will still sell the farmer's lower quality produce but only packed in the farmer's boxes.

Produce distributors do not generally use "drops" (deliveries straight from farms to customers), preferring to inspect and control the product. The produce rarely stays in the distributors' care for long — the goal is to get the product in and out in a few days. In cases where the quality/grade of a product is in dispute, the U.S Department of Agriculture (USDA) will inspect and decide, but such consultations are very rare.

Quality and efficiency drive vendors' choice of suppliers. It is also believed that only large farms have the kind of equipment and infrastructure to meet the highest quality standards, such as on-farm facilities (e.g., vacuum cooling, packaging) and refrigerated trucks. These technologies are costly, a big investment for farms supplying produce only three to four months per year.

Other measures to ensure food safety (or decrease exposure to liability) are costly to the vendors. Third-party audits of farms are required by distributors and probably will soon be required by one shipper. They are seen as fairly expensive for farmers (hence they try to team up with other neighboring farms to bring the cost down), with rules and requirements that are subjectively interpreted (not transparently and uniformly enforced) by inspectors. Nonetheless, they are a standard expense for distributors and shippers as well as many farmers.

Another costly but necessary expense is insurance. A distributor, for example, requires a \$3 million policy that holds harmless the distributor. MSU in turn requires

the distributor to hold MSU harmless in its own policy. Distributors generally require rigorous procedures from farmers (potable water, sanitary conditions for employees); in one case, it takes about one year for a farmer to go through the audit process. These are large upfront costs difficult for small businesses to meet.

Reliability and quantity

There was general agreement that selling fresh fruits and vegetables is a difficult line of work: there is a fine line, one says, between too little, just right and too much. Farmers want to plant only what they can sell, yet nature is unpredictable. Produce houses tend to work together to meet demand even though they are in competition for the same dollar. A processor likes to use contracts to handle this uncertainty, but the farmers generally did not, believing contracts trapped them into low prices.

Distributors and middlemen work with farmers to coordinate supply, holding meetings in December to discuss the upcoming year. Farmers talk to the distributors throughout the season, updating them with projected beginning and ending dates and harvest estimates for particular crops.

Despite efforts to coordinate supply and demand, surpluses and shortfalls do occur. When a distributor is "short," he will often contact competitors to try to fill the order. If very short, he will spread what is available among key customers. When a distributor is "long," he is willing to sell at a low price but tries to sell it to a distant buyer, if possible; only as a last resort will he "bury a load" in his regular markets.

Efficiency and transport/transaction costs

Decreasing costs, particularly transport and transaction costs, is of utmost importance and drives the businesses' behaviors in many ways. In light of rising fuel costs, minimizing transport costs is vital, with filling the truck a common goal. A processor, knowing it costs \$150 to back up the truck to the dock regardless of the volume unloaded, will sometimes sell items at little or no profit just to fill the truck. One shipper discussed dramatically higher transport costs when a trailer is anything less than full. The shipper cited transaction costs (e.g., limited time available for buyers) as largely driving many facets of the modern food distribution system. Each buyer and office now has greater geographic and product line responsibility — 35 years ago, a buyer was responsible for about three items but now must procure 25 to 30. This creates increased dependence on brokers, the manufacturers' representatives. The cost of making one more phone call and processing one more invoice pushes buyers to purchase from vendors who offer a full line of items. "One call, one order, one delivery" is the goal of buyers, according to a shipper. A broker specializing in Michigan-grown produce works with an established full-line produce distributor rather than shipping items himself. On the other end, he prefers to work with farmers who can deliver reliably and without incident so that the broker does not need to "babysit" them. The shipper cites his ability to supply apples year round to a large grocery chain as key to keeping that account.

In general, the vendors involved in these supply chains succeed by focusing attention on routinization, reliability and volume. Farmers talked about sticking to their core, mainly focusing on a few (three or four) crops. They find it hard to produce more crops of sufficiently high quality. These farmers harvest crops six days a week, staggering plantings to have a steady supply over several months. They believe their reliability is the essential reason the distributor likes to buy from them. They occasionally will sell even at a low price to keep the buyer happy and in the habit of sourcing from that farm. The farmers generally do not know the destination of the items after delivery to the distributor. A regular routine is also critical for the produce distributor, who delivers six days a week to MSU.

A processor emphasized that his business makes money on volume. The business purchases (and delivers) produce by the truckload and offers quantity discounts to buyers. It will do special requests only on very high volumes, finding "off runs" not to be cost-effective. It tends to source from the same farms and locations year after year. In general, both the processor and distributors source from an annually repeating sequence of locations as the year progresses. Many of them buy fairly large quantities of a few Michigan-grown items for a few months per year. One distributor does carry a line of Michigan apples, from a single shipper, but it maintains slots for only the most commonly requested varieties.

The ordering systems seem to vary greatly. Most distributors were open to receiving information on product availability in whatever form the farmer could provide (often by fax), and most also did business by a number of methods (phone, fax or online). A middleman described how he tends to work more by phone but that younger employees are more comfortable with online and newer technologies. Another distributor strongly prefers all online orders and urges farmers to get upto-date if they wish to do business.

Pricing

Despite the low ranking of price on MSU's priority list, the bid process would eliminate high-cost vendors. In principle, lower freight costs for Michigan-grown products may help to offset the higher transaction costs associated with seasonality and availability issues, although it is not clear that this effect has come to pass.

Price negotiation between vendors appears to be complex. A farmer described using USDA reports as a guideline and also "asking around" to learn the prevailing price. The farmer tends to list an asking price on the availability sheet with some "wiggle room" for negotiation but believes the distributor ultimately names the price.

Relationships among agents

One way this quest for routine-and-reliable manifests is the tendency to work with known entities — people the vendors have worked with before. One vendor works with "who we've worked with for 30 years." One model is for a single farmer to be the main interface with the distributor, working with "his buddies" to supply a critical mass of the buyers' needed volume. On the other hand, a broker stated that a cold call from a farmer asking to sell his produce is commonly a warning sign of bad quality. The Perishable Agricultural Commodities Act "blue books" were cited as another way to glean information about a potential partner.

Farmers, middlemen and processors who supply large distributors generally speak well of them. They are seen by farmers as reliable customers who pay a fair price in a timely manner. The processor saw the distributor as serving a critical function: distributing its products to numerous small buyers so the processor can focus transport efforts on a few high-volume (e.g., supermarket) accounts. There is a perception that the distributor holds great market power and suppliers are reluctant to cross them. For example, none expressed interest in "setting up a route" to supply restaurants or schools. Not only would it be difficult to compete logistically, but doing so would be undercutting their major customer.

Another outcome of the drive for volume and minimal transport/transaction costs is the rise of full-line distributors and dominance in these supply chains of large businesses in general. "Small guys get squeezed out," explains one vendor. These businesses tend to work closely with a few major businesses. We found cases of distributors both selling to and buying from processors (e.g., supplying whole produce, then distributing the chopped and bagged product).

Michigan State University is a prestigious and important account for some vendors. It is clear especially for the smaller vendors that this account is important. One vendor sponsors MSU athletic events both because it's fun and for the publicity and good will it generates.

A clear trend in these findings is the kind of bifurcation found in the food system and the larger economy in general: the majority of volume is handled by large businesses that compete on efficiency and low transaction costs, with smaller businesses competing in the niches, providing differentiated products and unique services not readily available from the large vendors. In general, distributors prefer to work with larger farmers. Movement toward one-stop shopping reduces the time needed and the cost of dealing with many parties. As noted previously, postharvest handling equipment is a large fixed cost for farmers; large volumes decrease the per-unit expense. Though some smaller shippers and distributors will accept availability information in a number of forms (e.g., phone, fax), the trend is definitely toward the type of online ordering that MSU uses.

The tie between smaller and local arises in perceived willingness to supply local produce. Some believe smaller distributors will make more of an effort to get local produce if asked. Indeed, a smaller distributor expressed willingness to buy small volumes and encouraged farmers to contact him; a large distributor said that, if asked, he would likely go to a middleman who is more familiar with small and local farmers and willing to pick up produce at the farms. This large distributor furthermore implied that farmers interested in supplying his firm or MSU are better off working through a middleman.

Attitudes and behaviors specific to Michigan products

The vendors we interviewed expressed a number of views about Michigan products. Michigan is increasingly seen as the local source of fruits and vegetables for the Great Lakes region in general. Availability — specifically, seasonality — is the biggest single constraint: Michigan's fresh products are seen as good products when they're available. Proximity to markets was seen by one as Michigan produce's biggest advantage. One vendor said that Michigan products generally have better taste than appearance (also known as "search" versus "experience" attributes), which may dissuade someone from trying them at first but encourages repeat purchases in the long run.

There is also a perception that Michigan products are improving in quality, largely because of adoption of technological advances such as improved varieties and investment in cooling and packaging. Commodity committees are credited with helping the industry adapt to a "shipper model," which improves the efficiency of transactions.

Nonetheless, Michigan produce faces key challenges. For example, numerous vendors said that Michigan does not grow good lettuce because of the climate (heat, moisture and wind), which results in severe quality issues compared with lettuce grown in drier, more moderate temperature areas. Michigan lettuce is also seen as being sandy or dirty and, therefore, difficult for processors to use. One distributor said that Michigan strawberries are too high in moisture and not suited to his business.

Apples were another crop widely discussed. One shipper listed what he sees as "humps" (barriers) for greater use of Michigan apples. First, there is a perception that they are of low quality. One shipper believes that Michigan growers have been prone to undercut one another and dump low-price/low-quality product on the market. In contrast, the shipper further stated, New York and Washington growers do not fight over price but rather maintain more of a unified front to keep prices high. Many buyers have bought low-priced apples only to find them to be of low quality, tarnishing the reputation of all. Washington apples grade out higher, and year-round availability makes them valuable to buyers looking to decrease transaction costs. This shipper believes that the Michigan apple industry can compete by marketing on high quality. There is also a perception that Michigan has only bagged apples. By offering point-of-purchase promotion and encouraging buyers to ask their distributors for local apples, he believes Michigan apples can make inroads, with the taste retaining repeat customers.

On the whole, the interviewees liked the idea of using Michigan produce in general and were happy to hear about this project, but most saw Michigan as a minor player because of seasonality and overall availability. With few large manufacturers, Michigan does not have the type of businesses able to attract brokers who will help them gain large accounts such as MSU. One vendor was very proud of its status as a Michigan company, especially promoting this when making sales calls to state institutions such as universities and prisons, mentioning that the company pays taxes here and referring to its employees as "taxpayers."

Opportunities and obstacles identified by supply chain actors

We conclude this section with a discussion of opportunities for and obstacles to increasing the use of Michigan food at MSU that arise from information gleaned from vendors. These factors will be critical to operationalizing Food Stores' stated desire for and commitment to local, sustainable food purchases into adoption of practices that will fulfill these goals.

Opportunities

• Positive view of Michigan food products. On the whole, interviewees generally thought the products were of sufficiently high quality and liked the idea of supporting Michigan farms and businesses. Most stated that problems can be overcome by improved communication and technology.

- Size and prestige of the MSU account. Vendors will likely be eager to accommodate the wishes of such a large and well-known buyer.
- Learning from current examples. MSU currently procures local apples from its primary distributor, proving it is possible and suggesting ways that other products can be sourced as well.
- Fuel costs. Given the high cost of fuel and the volatility of fuel prices, locally grown produce will, all else being equal, become increasingly competitive.

Obstacles

- Asynchrony of supply and demand. MSU serves most of its meals outside of Michigan's prime growing season. Season-extension technologies will be vital to addressing this.
- Use of processed produce. In-house processing would pose a number of obstacles, including increased waste, yield uncertainty, labor costs and safety issues. It is also unlikely that the current processors would wish to run specific batches of Michigan-only produce or to commit to procure Michigan produce for MSU.
- Advantages of the current system. MSU operates as it does for obvious reasons reliable supply at reasonable cost with manageable transaction costs. To the extent that buying local will involve adding vendors, the transaction costs and perceived potential risk increase.
- High demand on farmers. Costs of insurance, handling, traceability and other requirements of MSU or its vendors likely limit the number of farmers who can meet them.
- Desire for name-brand products. Few manufacturers supplying MSU are Michigan companies or supplied by Michigan farmers.

LOCAL PURCHASING AT OTHER UNIVERSITIES: BEST PRACTICE MODELS

To provide a national context for MSU's initiative, it is useful to explore what some other institutions across the country are doing with respect to dining services procurement. Many colleges and universities are looking to source local, but we felt it most useful to focus on those of similar size and scope to MSU Dining Services. This section highlights best practices applied in three other universities to create and develop a farm-to-college program.

Just as colleges and universities have been ranked by acceptance rates, incoming students' SAT scores, teacherstudent ratios and endowments, these institutions are now being judged by their dedication to sustainability. Beyond research and academics, sustainability in practice on campus means meeting present needs without compromising the ability of future generations to meet their needs as well. As the general public becomes more aware of environmental and sustainability issues, colleges and universities nationwide now can and do use campus sustainability initiatives as public relations, marketing and recruitment tools.

Institutions of higher education have tended to make declarations or pledges and set goals to make their commitment to sustainability clear. For example, the Talliores Declaration is a 10-point action plan for universities worldwide to focus on sustainability awareness, education, research and policy, both as a civic duty and a social responsibility. This declaration was composed and signed by University Presidents for a Sustainable Future, an association of university leaders with a particular interest in environmental issues on university campuses. More recently, a number of university officials have outlined sustainable food-purchasing policies with commitments to sustainable food and food systems and sustainable purchasing goals and/or specific buying priorities. Emory University's Report of the Sustainability Committee, for instance, recently set a goal to "procure 75 percent of ingredients from local or sustainably grown sources by 2015" as a way "to provide and encourage healthy food choices at all times of day."¹²

This talk, however, must translate into action by university officials and administrators to provide a real contribution to sustainability efforts. Action is now reviewed and graded in the Sustainable Endowment Institute's "College Sustainability Report Card: A Review of Campus and Endowment Policies at Leading Institutions," which scores sustainability policies as well as practices. These yearly progress assessments are designed to encourage sustainability as a university priority and cover topics such as administration, climate change and energy, green building, transportation, endowment transparency, investment priorities and shareholder engagement. The sustainability of university dining services is also reviewed in the food and recycling category, which includes a range of issues from recycling and composting to the quantity and availability of locally grown, organic and sustainably produced food.

The 2008 Sustainability Report Card named 57 colleges and universities that are leaders in food and recycling on the basis of their scores in this area. Grades were significantly improved when these institutions increased their purchase and use of local food. The trend toward local food is certainly on the upswing — the number of schools that reported at least some local food purchases grew from 63 percent to 84 percent from 2007 to 2008, and 70 percent of schools now devote at least a portion of their food budgets to products from local farms and producers.

The food and recycling leaders include both the University of Minnesota and the University of Michigan (UM), partly because of their local purchasing initiatives. The University of Minnesota reported 18 percent local food purchases and makes use of peer food marketing interns, recyclable and biodegradable products, and a pilot composting program. UM incorporates fresh, local foods into campus menus as well as organic and fair trade products, and has implemented a recycling program. Michigan State University (MSU), with a grade of B in food and recycling, was not considered a leader in this category.

¹² Sustainability Vision for Emory. 2006 Report of the Sustainability Committee Accessed February 2008: http://www.finadmin.emory. edu/policies/SustyReportFinal.pdf.

Local purchasing at universities: case studies

As part of broader sustainability initiatives, institutions throughout the United States are beginning to analyze critically the impact of their purchases on the environment, human health, labor, animal welfare and other concerns. Some would argue that, as mission-driven institutions with commitments to the public good, universities have a duty to drive the development of socially and environmentally responsible products and services with their purchasing standards.¹³ Sustainable food purchasing policies can provide the guidelines necessary for universities to make significant progress in this regard. The University of Massachusetts-Amherst and the University of Minnesota both have used sustainable purchasing missions or goals to steer their local purchasing programs, and UM provides an example of a local purchasing pilot in Michigan. The policies and practices of these universities can provide best practices for universities such as MSU that are just beginning to source local products.

University of Massachusetts-Amherst

The University of Massachusetts-Amherst (U Mass-Amherst) is a large land-grant university in a growing climate similar to that of most universities in Michigan. With a self-operated, comprehensive dining service, the university serves 13,000 through its meal plan. In addition to local foods, Dining Services is dedicated to making fair trade products and sustainable seafood available to the university community as part of its social responsibility. Purchasing directly from local farmers for universitywide use, U Mass-Amherst has spent up to 20 percent of its \$1.5 million budget for fresh products (produce and eggs) through a "locally grown" program. The goal of Dining Services is to purchase as much as 25 percent of its produce from local farms within the next two years, a 6 percent increase from four years ago.

The motivation behind the university's commitment to local purchasing is multidimensional. Students led the demand for locally grown products, but the university would like to support the local agricultural community, given its agricultural focus. The director and staff of dining services were willing to put in the extra effort to seek out local growers and highlight local products in new

menus that focus on freshness and flavor. According to the Dining Services director, Ken Toong, it is simply "the right thing to do." By removing frozen vegetables and focusing on quality over quantity, restaurant-style preparation and global cuisine, campus menus allow for the utilization of more fresh produce. Local products are noted in the menu online, labeled on the service line and marketed with the help of Community Involved in Sustaining Agriculture (CISA), a non-profit organization in Deerfield, Mass., dedicated to linking farmers and communities to strengthen agriculture in western Massachusetts.¹⁴ Local products are highlighted and sampled at the weeklong annual fall food festival at U Mass, among other events. Additionally, a farmers' market was opened in the student center in 2007 to give the university community even greater access to fresh products direct from local farms.

Massachusetts offers diverse agricultural products, but Dining Services' primary local purchases are carrots, beans, tomatoes and hothouse tomatoes. U Mass-Amherst defines "local" as between 1 and 20 miles of the campus and has found that lower transportation costs make local produce not only affordable but often cheaper. Operating as a makeshift or informal cooperative, local farmers work under one local grower, who coordinates supply to meet the needs of the university while minimizing the number of deliveries to campus. The university requires \$2 million in liability coverage insurance from its vendors, including farmers, and has a HACCP plan in place within Dining Services to ensure food safety.

University of Minnesota

Unlike U Mass-Amherst, Dining Services at the University of Minnesota (U Minn) is contracted and operated by a food service provider. This large land-grant university in the Midwest offers an example of local purchasing through a large distributor and typical distribution

¹³ Association for the Advancement of Sustainability in Higher Education, Food Alliance, Health Care Without Harm, Institute for Agriculture and Trade Policy, and Oregon Center for Environmental Health. 2007. "A Guide to Developing a Sustainable Food Purchasing Policy." Accessed February 2008: http://www.foodalliance.org/ sustainablefoodpolicy/sfpg.pdf.

¹⁴ http://www.buylocalfood.com/CISA.

channels. The Sustainability Programs' program mission states, "University Dining Services (UDS) actively works to improve our relationship with the land, the community and local producers," with a clear commitment to "supporting local farmers while providing students and University of Minnesota faculty and staff with foods, beverages and products they want."¹⁵ UDS finds additional support for local purchasing as a member of the Heartland Food Network, which encourages local, organic and sustainable food purchases, and its relationship with the Midwest Food Alliance, which offers certification of environmentally friendly and socially responsible agricultural practices.

As is now typical of many large universities and institutions in the United States, U Minn has one large primary vendor from which it purchases a diverse array of products. Often, this situation makes purchasing locally grown products difficult. Some distributors are unable or unwilling to slot local, seasonal products. In this case, however, Sysco Minnesota offers and even promotes local products to its customers. The Sysco Minnesota Farmers' Market program provides customers with weekly lists of the availability and pricing of local products, as well as farmer profiles. In this way, UDS/ Aramark has been able to maintain its standard purchasing practices but can request local products when they are in season and available and fill the remainder of orders with Sysco's typical product line throughout the year. By purchasing more than 170,184 pounds of local produce — such as apples, strawberries, eggplant, green peppers, cabbage, radishes, cucumbers, green beans, potatoes and sweet corn - in 2007, UDS bought 184 percent more locally grown produce than it had the previous year. Additionally, UDS is committed to supporting local producers and processors such as Jennie-O and Land O' Lakes. UDS customers consumed 124,146 gallons of Land O' Lakes milk in 2007.¹⁶

Sourcing local products through its primary vendor, UDS has not had to make significant changes to its purchasing practices but benefits in other ways as well. Deliveries, including local products, are direct from the distributor to dining locations on campus at least three to five times each week. The distributor works directly with local farmers to be sure they have insurance and any necessary certifications and/or inspections, which saves UDS staff members the time and trouble. Additionally, the purchasing power of the university has not gone unnoticed by the distributor. At the university's request, Sysco Minnesota has added some new products and vendors and is actively pursuing additional local producers and products to incorporate into its product line.

UDS offers its local foods through mostly retail, restaurant-style venues, with menus geared toward the availability of local products. In January 2007, UDS converted an existing retail venue to a Minnesota-grown venue, making as many local products available as possible in this chef-inspired and -led venture. UDS catering services offer the most menu flexibility for incorporating locally grown foods, but local foods on menu rotations and dinners dedicated to local products are offered every semester at the residential halls on campus. Heartland Food Network helps the university host local chefs, who prepare signature items and feature local foods and promote these events with customers. UDS admits that marketing on campus is a challenge, but it uses Web sites, brochures, informational fairs, events, local press, point-of-sale signage and labels, and even "Food Dudes" - student peer-to-peer marketing interns - to promote the sustainability programs of UDS and spread the word about local foods.

University of Michigan

The local purchasing pilot project at UM provides a demonstration of sourcing foods directly from local farmers in Michigan. UM, like MSU, enrolls more than 40,000 students, has a self-operated food service, and contracts with a primary food vendor and a secondary produce supplier. According to the mission of the University Housing Sustainability Oversight Committee, members are "stewards of the Earth" who have the "responsibility to move toward a sustainable society [which encourages] sustainable and restorative practices through education and engagement with our stakeholders, including staff, residents, suppliers, contractors and the University

¹⁵ Leslie Bowman. University of Minnesota, Twin Cities—University Dining Services Sustainability Programs, 2007. Power Point presentation.

¹⁶ University of Minnesota University Dining Services. "UDS Sustainability." Accessed March 2008. http://www1.umn.edu/dining/ awareness.html.

community." ¹⁷ Local purchasing efforts gain additional support from the university president's initiative, which promotes local and healthy foods.

Within the housing community, the chef in one dorm with unique student interest in sustainable, organic, vegetarian and vegan foods has begun an informal pilot of local purchasing on campus that is steadily ballooning toward some campuswide purchases of local products. This dedicated and motivated chef was inspired to connect with local farmers after attending a conference offered by a non-profit organization founded in large part by MSU Extension educator Mike Score and dedicated to localized economic development through agriculture and food systems. The chef initially worked with that organization, which acts as a coordinator or intermediary in other farm-to-school efforts, to connect with growers in a 12-county area in southeastern Michigan. Knowing that it is best to start small and slow, the chef began purchasing apples from one, then two local growers. The chef found that twice as many apples were eaten by the students when he was buying smaller, more flavorful Michigan apples. With the popularity of these tasty apples, the chef was moved to incorporate local diversified vegetables, honey and seitan (a wheat-based meat substitute) into the dorm's meals and noticed similar results. He believes there was a threefold increase in the consumption of grape and cherry tomatoes on the salad bar now that he was making these tri-colored local tomatoes available to students. Local products are delivered whole, and food service staff members on union wages prepare local fruits and vegetables for meals. Though this may not necessarily be the most efficient system, this dorm's kitchen does have the capacity and facilities for the storage and preparation of whole, fresh produce. The chef also has the latitude to plan menus around seasonal produce and markets these products daily on his menu and a simple laminated, erasable poster.

The UM chef is now working with at least four local farmers and one local producer, and local apples are now sold campuswide. These farmers have operations that exemplify the agricultural diversity of Michigan. One family with a 50- to 60-acre farm and greenhouse typically sold products wholesale or at farmers' markets but has recently begun selling to institutions (K-12 schools and the university). The family has replaced some crops,

such as flowers, with additional vegetables for the steady, reliable institutional sales. Another farm family that operates a diversified vegetable operation has 30 acres and two new hoophouses for fall and spring season extension. This family is also selling products to K-12 schools and coordinates plantings, and even the seeds they buy, with the UM chef. One apple grower has 5 acres of apples and 200 colonies of bees as well as some cattle, pigs, corn and beans. He has sold most of his products from home, but he, too, appreciates the guaranteed institutional sales and often makes deliveries on the same day he fields an order from the chef at UM. The other apple grower has a 40-acre farm, where she produces apples, eggs and some vegetables. She also manages a nine-member farmer cooperative and markets its eggs. cherries and peaches throughout southern Michigan.

Unlike U Minn's straightforward system of ordering, purchasing and delivery of local products through a large distributor, purchasing directly from farmers has proven more complicated and cumbersome in UM's bureaucracy. UM was unable to source local products through its primary and secondary vendors without product delivery to Detroit, about 40 miles from Ann Arbor and even farther from most of the farmers. Instead, university officials first distributed to local farmers a request for quotations for their products. Once approved as vendors, farmers signed university contracts, which appear intimidating and call for \$1 million in liability insurance coverage and the provision of information for audit trails and food safety recalls. Like most universities, UM is considered a large and slow-moving machine, and prompt payment (within 90 days) to farmers is still a problem because of confusion over invoices and properly issued vendor purchase orders. It was easy to schedule delivery dates around the farmers' marketing at the Ann Arbor Farmers' Market, but one farmer remarked that maneuvering to and through the building itself for delivery (including parking the truck), entrance into the dorm, dropping the product and getting invoices signed is nearly as difficult as maneuvering through the complex university bureaucracy and its payment system. Still, the farmers note that they are privileged to have the

¹⁷ Housing Sustainability Oversight Committee. "Mission Statement." Accessed March 2008. http://www.housing.umich.edu/sustainability/mission.htm.

steady business of a dedicated institutional customer and seem willing to bear with the chef through this learning curve for the sake of gaining a long-term customer that could grow over time.

Best Practices

From the case studies of three local purchasing initiatives by universities – direct purchase from farmers for campuswide use at U-Mass Amherst, local sourcing through large distributors at U Minn and a smaller pilot of direct purchase from farmers at UM – best practices become evident.

First, it is clear that action, not just talk, drives university sustainability initiatives, including local purchasing projects. Within broader sustainability initiatives in dining services or campuswide, universities can set standards to guide purchasing practices, and local purchasing goals will stimulate action and allow for success to be measured over time.

Most universities started slowly and increased local purchases over time. A slow but steady start allows time to work through kinks, gauge student interest, build local purchasing systems, and form relationships with local farmers and/or distributors around local products.

Additionally, interested chefs can kick-start local purchasing projects if given the room to do so, but dining service administrators and university officials must provide the support necessary to implement universitywide local food purchasing.

Finally, partnering with local organizations can facilitate connections to local farmers and/or distributors, help work through logistics of distribution, and support marketing efforts and events to highlight local products. There are several examples nationwide of entities engaged in creating connections between local producers and broader markets of various types and whose experiences and expertise can be drawn upon to guide our efforts, including Red Tomato (http://www.redtomato.org/), The Community Alliance with Family Farmers (http://www. caff.org/), The New North Florida Cooperative Farm to School program (http://www.farmtoschool.org/stateprograms.php?action = detail&id = 23&pid = 32) and Good Natured Family Farms (http://www.good natured.net/).

DISCUSSION

MSU's education, research and outreach programs provide a wide range of expertise and public services to the citizens of Michigan. Specifically, this responsibility has been emphasized in the university's mission statement: "Through the excellence of its academic programs, the strength of its support services, and the range of its student activities, the university provides opportunities for the fullest possible development of the potential of each student and each citizen served, and enhances the quality of life and the economic viability of Michigan "18 Because of MSU's land-grant status and its strong ties to Michigan agriculture, a farm-to-MSU program can be easily tied to its overall mission. This section discusses and analyzes some of the potential benefits of a farm-to-MSU program, current MSU experiences in this area, and challenges and obstacles for starting and implementing the program.

Benefits of a farm-to-MSU program

A farm-to-MSU program will increase the purchase of local foods and provide concrete benefits to those involved in the program and to Michigan's rural and urban communities. Following are some of the major social, economic and environmental reasons for MSU to "buy Michigan."

First, increased purchasing of Michigan food products by MSU could positively affect the state's economy. When MSU buys Michigan-produced food items, dollars stay within the state economy. This helps Michigan producers and agribusinesses retain current jobs, create new jobs and generate revenues. There will also be additional tax benefits at the state and local levels.

Second, the program could enhance the economic viability and existence of Michigan farms by providing market access that expands production and marketing capabilities and enables them to secure stable and adequate income. A wide array of social and economic benefits could accrue to Michigan communities if this program can provide markets for and contribute to the viability of medium-scale farms. Midsized farms are in

¹⁸ http://president.msu.edu/mission.php.

particular peril in Michigan and nationwide, but numerous studies have shown them to be vital ingredients of healthy rural communities.

Third, a farm-to-MSU program can have a significant impact on the environment. Currently, food products travel long distances before reaching the end consumer, resulting in a large carbon footprint. By sourcing Michigan-produced food items within an efficient regional food system, MSU can contribute to the reduction of fuel consumption and greenhouse gas emissions.

Fourth, buying Michigan would support food supply chains and would foster better connections and relationships between MSU Food Stores and Michigan producers and local food distributors.

Fifth, a farm-to-MSU program could enable the purchase of fresher, more nutritious and potentially higher quality food products for the residence halls dining services and other on-campus food service operations.

Sixth, a farm-to-MSU program could provide MSU with greater opportunity to establish a sustainable network and coordinate logistics with Michigan producers and local food suppliers. Within a farm-to-MSU program, logistical arrangements could easily be made in such areas as what producers need to grow/produce and how these products should be ordered, handled, stored and delivered. Michigan's agrifood sector is very diverse, producing about 200 agricultural commodities,¹⁹ many of which may be used at MSU. This provides an extra opportunity to emphasize seasonal menus by bringing a variety of quality food products to MSU's residence hall dining services.

Seventh, a farm-to-MSU program could be incorporated into the university's education and research programs to help students learn more about sustainable and local food production systems and alternative food supply chains, thereby forging stronger links between Dining Services and the education/research missions of the university.

Eighth, the program would allow MSU Food Stores to meet specific demands by customers who want to focus on local and sustainable foods.

Overall, a farm-to-MSU program can create an opportunity for MSU to strengthen its relationships with Michigan rural and urban communities and enhance the fulfillment of its land-grant mission. It should be able to utilize this in institutional marketing programs and in funding discussions with the executive and legislative branches of government.

Experiences, obstacles and challenges to a farm-to-MSU program

The supply chain for food products has seen dramatic changes and developments in the past 50 years.²⁰ Improvements in agricultural productivity, changes in farm ownership, continued specializations in crop or livestock production, and the development of large processing, packaging and distribution companies and agencies have created a globalized food economy with long supply chains for food products. An increasing concern about these trends and their impacts has created alternative food systems that emphasize local connections among supply chain actors. Farm-to-college programs are one of these alternative initiatives. Currently, as discussed in the previous section, an increasing number of universities and colleges have farm-to-college programs and initiatives. The Community Food Security Coalition (CFSC) lists about 135 university and college programs in the United States and Canada.²¹ Although some programs started as early as the 1970s, most of the farmto-college initiatives started operation in the past seven to eight years. University and/or college dining/food services staff members were most responsible for initiating and running these programs.

It was learned during our interviews that about four decades ago, MSU Food Stores was committed to purchasing food products from local sources. Thus, in a sense, the current initiative can be thought of as "back to the future." As previously highlighted, a draft farmto-MSU document available to the study team generally highlights intentions of MSU Food Stores to incorporate local food products in its dining services and initiate local food educational and promotional programs targeting its customer base, including students and the MSU

¹⁹ http://www.michigan.gov/mda/0,1607,7-125-1572-181993--,00. html.

²⁰ http://www.sarep.ucdavis.edu/cdpp/foodsystems/rationale.htm.

²¹ http://www.farmtocollege.org/about.htm.

community at large. Food produced and supplied within a 250-mile radius will be considered local; regional food will be that produced and supplied within 600 miles.

Following are some of the opportunities, challenges and obstacles that probably need to be addressed to establish an effective, sustainable farm-to-MSU program.

Mission and vision statements

It may be useful to consider the mission statement and its opportunity to codify, at the highest level of an organizational ethos, the values contained in the draft farmto-MSU statement. UFDS's mission is customer-driven and focuses on providing quality and valued products and services to the university community. The mission statement could conceivably address and incorporate such things as support to Michigan's food sector development, guidance on sustainable food, and the nutritional and health needs of students, as well as the importance, values and benefits of a farm-to-MSU program. MSU Bakers/Food Stores' value statement pledges to broaden awareness of sustainability in its practices.

Organizational structure and food supply chain

UFDS is required by federal regulations and university administration to use a competitive bid process for purchasing food items. It currently has a relatively rigid and hierarchical universitywide organizational structure that dictates the types of vendors to be contacted and allows purchasing of food items solely from a set list of preapproved and contracted prime vendors. Bidding protocols and contractual agreements with these vendors do not incorporate clauses or provide specific guidance on sourcing of Michigan or local food products. A bill recently introduced into the Michigan Legislature (2008-HB-5967) would increase the competitive bid floor from about \$19,000 to \$100,000 for K-12 school districts. MSU could consider a similar strategy to increase its ability to simplify local purchases in smaller quantities.

Chefs and managers of residence hall dining services and other on-campus food services have little autonomy to establish and maintain relationships with local or Michigan food producers and suppliers. They can purchase food products only from approved vendors that have contractual agreements with Food Stores. In addition, menu development plans for residence hall dining services are centralized, and dining hall chefs are compelled to use a fixed set of menus. This process does not provide much room for chefs to pursue different goals and menu planning programs or to incorporate Michigan products into their menus. There are some efforts to engage students in menu development, but still the student community is not broadly involved in this process. Overall, many current strategic choices and procurement policies at MSU are not conducive to sourcing Michigan or local food products.

UFDS is expected to generate net income sufficient to finance its current and future operations. Consequently, price is expected to be one of the basic criteria used to determine bid winners. Some individuals perceive that purchasing local or Michigan food products — in particular, fresh, whole produce — costs more than the food items it normally purchases. It can be generally argued that some sustainable Michigan producers who want to sell products through MSU may have higher costs of production that may result in higher purchase prices. This may make it difficult for MSU to recover costs and ensure operational income.

Purchase of Michigan-produced food items

MSU Food Stores views Michigan or local food mainly in terms of produce, although, as discussed in the MSU food purchase section, it currently buys and uses other Michigan-produced food items, including dairy and meat products, through its primary vendors and manufacturers. Much of the produce purchased at MSU is processed (e.g., washed, peeled or chopped), which apparently better guarantees usable yield per case and decreases preconsumer waste. Labor costs for processing and handling are also seen as key constraints for not buying whole produce items. In addition, meat products such as Michigan turkey are purchased frozen.

MSU Food Stores believes that local food purchases could be expanded if products are available, prices are competitive and quality is improved. The health and food safety issue was one of the main concerns for Food Stores personnel in buying Michigan or local products. There appears to be a perception that farm products from local, small or organic sources have higher risk than items currently purchased through prime vendors. Because of this, liability concerns at MSU are currently affecting purchases. All food purchases are commonly addressed by enacting liability insurance requirements.

The current logistics arrangements also affect the purchase of Michigan products. MSU Food Stores likes one-stop shopping that allows its staff to purchase many items from very few vendors. This procurement approach also saves time and resource use that could arise from dealing with multiple vendors or farmers. Though there is a bar coding system that could be applied to distinguish Michigan or local products from non-Michigan or non-local, it is not always utilized. Vendors often mix Michigan products with non-Michigan or non-local products and then sell them to MSU, limiting Food Stores' ability to monitor purchases of Michigan products. In addition, the ability to monitor the 250-mile and 600-mile definitions for "local" and "regional" as currently conceived by Dining Services would be very difficult.

Two related sets of questions emerge from this discussion. First, how much market power does MSU have with its vendors to insist upon local products? Is MSU's demand strong enough and proportionate volume of sales in a given company large enough to push for a fundamental change in how the vendor operates? If not, are there other vendors who would embrace the opportunity? Clearly, the larger the proportion that MSU's account makes up in a given business, the more market power MSU will have. Second, if these changes are more costly (e.g., direct cost plus time and effort of adding a vendor or processing more invoices, increased labor for in-house processing of whole produce), is MSU willing to incur these costs? These questions will no doubt be answered as the farm-to-MSU program moves forward.

Universities and colleges that have farm-to-college programs use various educational and promotional programs to start and expand them.²² Some of the key programs used by other universities and colleges are special events (e.g., local food dinners, local food week, etc.), press releases, speakers and local food demonstrations, development and use of local food promotional and sourcing Web sites, farm tours, and incorporation of local food topics in research and classroom activities. UHDS has some local food promotion experience (e.g., apple week in October), but these promotional efforts are currently limited to occasional events. The university does not have well-organized, year-round marketing, promotional and educational programs for the use of local or Michigan food products within its system.

Supply chain actors' and producers' beliefs, attitudes and experiences

Vendors generally are interested in buying and selling Michigan food products, currently focusing on fruits and vegetables. However, except for some smaller distributors and shippers who showed a willingness to work with smaller farms, most vendors and shippers that supply food to MSU prefer to work with larger operations. Large distributors have greater market power, affecting conditions in contractual agreements and restricting market channels of their suppliers.

Supply chain actors increasingly utilize online ordering systems, to which farms of all scales must adapt. Michigan producers may also have difficulty meeting MSU's procurement requirements to become "approved suppliers." They are viewed as suppliers who cannot guarantee required supply, quality and food safety. They are also considered as businesses with fragmented organizational structure that may have difficulty in delivering products at the right time and location.

Vendors and producers who supply food products through the MSU food supply chain need to hold product liability insurance and conduct third-party audits on a regular basis. Though there are perceived improvements in the quality of Michigan produce coming into the marketplace, it is still assumed to be of inferior quality compared with products from other states such as California and Washington. Michigan leafy vegetables do not have market access through the current MSU food supply chain.

Seasonality is one other factor that affects product supply to MSU. Many food products at MSU (in particular fruits and vegetables) could potentially be bought from Michigan producers during the growing season. However, most fresh produce is likely to be available during the summer, when the number of meals served is low.

 $^{^{22}\,\}rm http://www.farmtocollege.org/Xgraphs/PromotionEducationTools.gif.$

The growing season for many produce items has limited overlap with MSU's academic calendar.

Overall, several major characteristics of the present MSU supply chain pose barriers to increased local food purchase:

- The current MSU food supply chain structure has limited flexibility to allow off-contract purchases or expand purchases from multiple vendors.
- The existing infrastructure and menu dynamics do not easily permit a direct link with a network of Michigan producers. The vast majority of Michigan food products are bought through primary vendors, large food distribution companies that supply a wide range of food products and brands.
- The structure, however, allows direct connections with some manufacturers specializing in processing Michigan-produced food items.

Opportunities and options for a farm-to-MSU program

It is clear that a fundamental change in food procurement policy and procedure will be required by Food Stores to fully embrace a farm-to-MSU program for this to be part of "who we are" rather than just "what we do." It is clear that this will necessitate a departure from its current comfort zone and in some cases will necessitate both one-time and recurring costs. It is unreasonable, however, to ask Food Stores to adapt or bear the cost unilaterally. Given the broad benefits outlined above and the truly transformative power that MSU and other universities' food services can have on the state's agricultural economy (through both their collective purchasing power and their high profile across the state), it is important to bring Michigan's private and public sectors to bear so that the costs and benefits are shared equitably. This section will discuss several options to ensure this equitable sharing and the long-term viability of the program.

First, it is important that increases in local food purchases be carefully quantified and their impacts accurately modeled (e.g., using input-output modeling methods). This involves a baseline measure of purchases at the beginning of the project and frequent measurements to

gauge the ongoing changes and effects. If buying more locally grown foods results in higher operating costs for food services and tangible economic benefits for Michigan farmers, food and agricultural businesses and therefore the economy and state fiscal budget as a whole, it is reasonable for the university to request state appropriations that reflect these benefits and partner in the costs. MSU could also explore ways to control and offset extra costs associated with purchases of these food items, such as an internal "carbon offset" tax. It is not clear whether the university (or state government in this time of budgetary crisis in Michigan) is ready to explore such steps. Decisions in these areas need to be made not only at the UFDS level. They may also require guidance and active participation by upper administration.

Second, given the scale and scope of MSU Food Stores and the enormous transaction costs involved with ensuring reliable supply, it is unreasonable to expect direct deliveries from, at most, more than a handful of farmers. There is, therefore, a need for the services of one or more businesses to provide brokering, consolidation and distribution services. Perhaps this could be performed by a growers' cooperative, wheel-and-spoke lead farmer model or other form of collective farmers' association. The large and steady demand of MSU could provide a stable income for such a prospective business if forward contracting were utilized. Public entities, particularly those within MSU such as MSU Extension and the Product Center, can lend valuable expertise and guidance to the formation and operation of these businesses. Similarly, MSU's growing presence as a national leader in season-extension technology would go a long way toward addressing seasonal availability issues. Farmers can create long-term demand for their brand, both within dining services and beyond the university, by creating and providing promotional materials for their products that tout "local" and other attributes related to environment, labor standards and animal welfare.

Given Food Stores' large and reliable demand, contracts or other purchase agreements would provide valuable evidence of steady revenue streams that can be leveraged to secure credit to establish or expand businesses that supply MSU (including farmers' investments in season-extension technology). Food Stores may even choose to invest some of its net income as a way to meet its long-term goals of creating a local, sustainable food system. The institution as a whole could consider using some of its investment portfolio as a patient capital fund for local business development. It is still vital, however, for private sector entrepreneurs, including farmers, to take the primary initiative and create these supply chains. MSU could also explore ways to partner with local counties and the state (e.g., the tri-county area and/ or the Michigan Economic Development Corporation) to tap economic development funds for catalyzing new, local distribution systems to aggregate farmers' crops and small-scale food processors to provide third-party processing, and/or to subsidize farmer conversion to higher value crops (e.g., organic production).

Finally, MSU can become the statewide and national leader in farm-to-university/college programs, with obvious mutual benefit for the state's institutions of higher learning. MSU could greatly add to its market power by establishing a collective statewide (or regional — e.g., everything from Central Michigan University south) college and university food service purchasing entity, be it a formal entity or an agreement to cooperate. Such an entity would have benefits beyond market power and ability to negotiate volume discounts. First, it may provide an account large enough to support a processor willing to procure Michigan produce and run it in batches for the universities' use, or a broker/distributor dedicated to sourcing local, sustainably grown products. Collaborative purchases among universities would also provide economies of scale for certification services to lower the institutions' search costs of acquiring products that meet various sustainability criteria, beginning with local production but also including humane animal treatment, on-farm ecological impacts and social justice (e.g., fair trade and labor treatment principles).

POTENTIAL STEPS TO START AND IMPLEMENT A FARM-TO-MSU PROGRAM

A farm-to-MSU program would provide a wide range of benefits to MSU, Michigan producers, other supply chain actors and the state's economy as a whole. Starting and implementing the program, however, requires a con-

certed effort at all levels, a wide range of collaborations and partnerships, and institutional changes. By examining current MSU purchases, efforts by other universities, the current supply chain for Michigan food products and Michigan's agrifood potential, the team developed the following short-term and long-term suggested steps and action items that could help MSU develop a viable and sustainable farm-to-MSU program. These steps and actions incorporate proposed changes and adjustments in the supply chain structure, changes and adjustments within MSU, changes at the producer and packer/shipper levels, and product foci during a short-term transition period. This section will also comment on obstacles and strategies for implementing the proposed sustainable purchasing practices developed by MSU Dining Services. In addition, we will attempt to link current and potential purchasing to the draft purchasing philosophy to identify places where current purchasing habits could be enhanced by seeking additional food attributes as identified in the MSU Dining Services document. The final section also includes some preliminary economic impact data at the farm level.

Potential supply chain structure for sourcing Michigan food products

MSU's current food sourcing model has characteristics markedly different from those of some of the farmto-college programs at other colleges and universities. The current supply chain alone may not create a viable and sustainable farm-to-MSU program. Following are some of the cases that support this argument:

- Despite its current support and involvement, in the long term, the current large-scale distribution channel may not prioritize sourcing Michigan products as required by MSU.
- With a large volume of non-Michigan food products coming through this channel, measuring MSU's impacts on Michigan products and administering and monitoring the process will be challenging.
- The fact that this channel is limited to medium- to large-scale producers eliminates the vast majority of Michigan's small producers that could potentially be integrated into the system.

Potential supply chains that could be used by MSU to source Michigan products are suggested below. Whatever sourcing method is chosen, it should address the needs of Michigan producers, intermediaries and MSU Food Stores.

1) MSU Food Stores buys directly from individual farmers. MSU can initiate and expand purchasing relationships with Michigan producers and buy directly from individual producers. This procurement method has many benefits. MSU can request specific Michigan food products in the form it needs them. It can develop delivery and logistics details and issues without a middleman and, in the long term, become familiar with what these farmers are producing, increasing the opportunity for continuing development of these relationships. MSU can also make specific arrangements with the producers that they produce/plant specific items needed by its dining services. Most Michigan producers, however, are selling what is in season and what they grow/produce. Small producers may not be able to provide a wide range of products or sufficient volume, and/or will not have a well-established delivery and logistics system. Thus, at least at the beginning, purchase arrangements with these producers may require multiple phone calls, multiple invoices and coordination of multiple deliveries. Frequent contacts and meetings with the producers, ideally before the growing season, will help plan needed crop/ livestock products and work out logistical details. These advance arrangements would also help some farmers to pool resources to provide a range of products in sufficient quantities. It would probably be useful to have a dedicated staff person, a farm-to-MSU coordinator, to facilitate and coordinate these efforts.

Farmers' markets can provide a vital contact and information exchange point between farmers and buyers. The farm-to-MSU coordinator could use these venues to meet local farmers and learn about products they offer at given times, and, in the beginning, try out and source some local food products. This would also begin to establish a pricing system for future exchanges.

2) MSU sources from producer associations/

cooperatives. As mentioned above, production capacity and logistical arrangements will continue to be a challenge for most of Michigan's small farmers. In the

long term, several of these small producers may need to collaborate to provide sufficient quantities of food items to meet MSU's demand. In this model, Michigan producers in a given locality or region can form an association, a cooperative or a network that helps them pool their resources to market their products through MSU. Buying from these farm organizations or cooperatives will help MSU to reduce the time and resources spent on the administrative tasks involved in ordering, invoicing and making payment and delivery arrangements. Advantages of this model:

- Ordering and invoicing could be done through one person/entity representing multiple farmers.
- Only one delivery would be necessary for multiple farmers and for a range of Michigan products.
- The model could allow bulk purchases of essential supplies that would help many small farmers to extend the production season and establish storage facilities and an optimal packing and processing system that can add value to their products. This is a particularly important value-added service in Michigan, where the growing season is limited, and would benefit MSU Food Stores by allowing an extended supply season for a wide range of Michigan products.
- This model could help farmers establish a streamlined communication system with MSU. This could eventually help promote a better understanding between producers and MSU Food Stores.
- The model will create an organization that would be able to negotiate a price that is fair to both MSU Food Stores and individual producers.
- The model will also help facilitate training and education programs for farmers in marketing and in valueadded product development.

Some producer organizations or cooperatives can focus solely on production; others can be involved in the marketing and distribution of farm products. At the beginning, these organizations or cooperatives may need to focus on a limited number of crops/products (preferably in the fruit and vegetable sector). In the process of collaboration, producers would need to make decisions on the type, quality and quantity of products and delivery arrangements. Currently, the number of farmer organizations or cooperatives that could supply Michigan-produced food items is very limited. This opens up an opportunity for the UFDS to play a significant role in initiating and supporting farmer associations/cooperatives in the coming years. For example, UFDS could develop cooperative strategies and actions with other entities such as the C.S. Mott Group for Sustainable Agriculture, the MSU Product Center for Agriculture and Natural Resources, and Michigan Food and Farming Systems (MIFFS) to catalyze Michigan cooperatives that supply Michigan products or to source value-added food products directly from producers. MSU Food Stores can utilize some of the income from its operations to support the formation of these associations/cooperatives as well as local economic development funds for this purpose. In the long run, in collaboration with a variety of MSU entities, including MSU University Development, UFDS can establish a financial support program focusing on sourcing of Michigan products and the formation of groups or intermediaries that supply the product.

Current trends suggest that various colleges and universities in Michigan may be increasingly interested in developing farm-to-college programs. MSU can cooperate with these colleges and universities to form farmer associations/cooperatives and other appropriate intermediaries that could supply a wide range of Michigan products to these institutions. One short-term option or pilot program for consideration could be to coordinate efforts with the University of Michigan (especially given that it was the work of MSUE and the MSU Product Center that initiated the current farmer-institution relationships at UM).

The MSU Product Center is currently providing a wide range of services and technical assistance to Michiganbased entrepreneurs who want to expand existing activities or develop new products or markets. Potentially, some of the food products going to MSU Food Stores could be sourced from some of these clients. Food Stores could also work with other MSU researchers (e.g., in Community, Agriculture, Recreation and Resource Studies [CARRS], Packaging, Food Science and Human Nutrition, and Horticulture) and a variety of Michigan commodity groups to identify appropriate varieties or develop finished products that could be utilized by its dining services. It could cooperate and work with the various MSU units to provide technical assistance to cooperatives in niche product development or in product storage, labeling or packaging.

One other option to consider in this area is support to the formation of a non-profit entity that could facilitate the purchase of food products from Michigan farmers (providing less service than the farmer associations/cooperatives or for-profit distributor). Such an entity could simply facilitate and initiate contacts between MSU Food Stores and potential Michigan producers, or it could act on behalf of farmers, taking orders from MSU Food Stores and then contacting individual farmers and/ or farmer groups to meet demand. This intermediary organization would help MSU in handling the paperwork and in monitoring Michigan product availability in a given time frame.

3) MSU orders Michigan food items through its current vendors. Some of the food products (e.g., milk and turkey meat products) that come to MSU have a very simple and established supply chain through which MSU Food Stores could continue to source. Other Michigan products that need some kind of processing could also be sourced directly from manufacturers that provide the service. For example, a fresh produce packaging and semiprocessing company that washes, chops, bags and delivers fresh vegetables would help in filling such gaps. This approach would allow MSU Food Stores to continue to use a centralized billing, product delivery and payment arrangement. Its disadvantage would be that Michigan producers will not have direct communication with Food Stores, and that may have an impact on their revenues. The other disadvantage of using this supply chain, especially in the long term, is that unless the vendor produces/processes only Michigan products, it would be difficult for MSU to monitor Michigan products that come through this channel. At times, buying from Michigan producers may or may not be a top priority for these vendors. Therefore, if MSU prefers to use this channel, it may need to introduce some changes in the procurement policies and guidelines that clearly outline the procedures and approaches to sourcing Michigan products. The vendor should follow MSU procurement procedures regarding recruitment of Michigan producers; types, qualities and quantities of Michigan products that need

to be sourced per season/year; and pricing and delivery arrangements with MSU and Michigan producers.

Changes within MSU

Following are some of the suggested adjustments and changes to food purchase cultures, policies, procurement procedures and supply structure that may help develop a sustainable farm-to-MSU program.

Develop a new food purchasing culture within

MSU. Buying and eating Michigan-produced food could have positive impacts on the surrounding communities, the environment and Michigan's economy. MSU Food Stores administrators, managers and procurement teams can view purchasing Michigan food products as a way to create a sustainable dining service and a better future for the state and its residents. Therefore, the community, particularly those involved in providing food service at MSU, can embrace a cultural change that allows increased purchase and consumption of food items produced in Michigan.

Obtain university administrative support. As a large land-grant university with annual food and supply expenditures of about \$22 million, MSU has a great deal of food-buying power. Unwavering and firm support of MSU administrators is essential for the success of a farm-to-MSU program. Identifying ways that this can be leveraged to improve campus sustainability and enhance our standing with legislators and the executive branch of government, as well as create positive publicity with various institutional stakeholder groups, should be selling points with MSU administrators.

Redefine UFDS's mission, vision and value statements. MSU can set out a clear-cut mission and vision that include Michigan and regional sourcing along with other product attributes and show how this fits with the university's land-grant mission and the needs of its customers. Establishing such a mission would allow staff members, students and the MSU community at large to take actions and know more about the university's commitments in sourcing Michigan food products. It would allow MSU Dining Services to talk about "who we are" rather than simply "what we do."

Institutionalize the farm-to-MSU program. A

fully integrated farm-to-college program can be achieved

through hard work and willingness of producers and institutional buyers to do things differently. Therefore, an effective and sustainable program may require full integration of the farm-to-MSU program within UFDS's structure as well as the hiring or reassignment of staff members fully dedicated to this program.

Three initial steps are suggested to aid this institutionalization. First is the development of specifications and procurement procedures targeting Michigan or local/ regional food products. These procedures can provide more clarity and flexibility to the Food Stores team, suppliers and Michigan producers. MSU, in this regard, is on the right track. The current draft farm-to-MSU document (appendix) lays the foundation for developing a viable farm-to-MSU program. Given product quality problems that have arisen in past efforts, the university should make transparent its expectations for packaging and other specifications. If, as discussed earlier, industry grades and standards are a minimum or floor, articulating the true expected specifications (beyond industry standards) will help prevent future problems.

The second step would be to hire a farm-to-MSU program coordinator or to incorporate Michigan or local food purchasing operations into the portfolio of existing procurement team members. It is recommended that a full-time person be dedicated to developing the program, either through a new hire or the rewriting of someone's existing job description. Creating such a position within UFDS's structure would provide an institutional basis for program continuity. The coordinator would be responsible for sourcing, ordering, monitoring and promoting Michigan and local food products. The coordinator will also work with the residence hall dining service managers and chefs, supporting them in menu development that incorporates Michigan products. He/she will have enough time to communicate effectively with a number of Michigan producers and other local food suppliers. The coordinator would keep track of all Michigan or local food orders to ensure that food service providers at MSU have what they need when they need it, streamlining the sourcing process when dealing with multiple suppliers. The coordinator could potentially manage an undergraduate internship program for students from various majors, such as communications or dietetics, who would create outreach materials for their fellow students.

The third step is to measure the baseline and set benchmarks or goals for purchasing Michigan products into the future. Beyond the development of specifications and procurement standards or procedures, purchasing goals or benchmarks can inspire action. As seen from the best practices of university local purchasing initiatives, they can help universities gauge success and measure progress over time. (See below for a discussion of purchasing baselines and goals for local food products.)

More assistance for chefs, concessions and hotel managers to buy Michigan products. Chefs in MSU-owned hotels, restaurants and dining halls and concessions managers may sometimes have different perspectives on and needs for food products than the procurement team at Food Stores. Some of the chefs and managers appear ready to work more directly with producers or local suppliers. Providing them more assistance in sourcing locally would help create a more durable and sustainable relationship with Michigan producers. It might be useful to identify a small cohort for a one-year pilot.

Administrative support to minimize UFDS's

budget concerns. Although the cost of locally produced food in some cases appears to be higher, in other cases the cost may be comparable or lower. It can be assumed that, in the short term, MSU's farm-to-MSU program will entail some extra cost. That may be true over the longer term as well. Therefore, as discussed previously, MSU administration and UFDS should work together to offset extra costs that could arise from the initiative. In some cases, students may be willing to pay more for local foods, if necessary, or there may be some areas where costs could be reduced. Finally, benefits to the local economy could justify increased public funds to the university.

Labor within the dining services is viewed as a significant issue in sourcing Michigan food products, particularly in buying whole produce. One major argument for not buying fresh whole produce is the additional labor cost to wash, peel, slice or chop produce. Working with local producers requires flexibility and fundamental change. To accommodate more whole produce, MSU needs to establish appropriate mechanisms (e.g., through hiring and training employees or working with a local/ regional fresh produce processor and packer) to increase purchase of Michigan fruit and vegetable products. This may also require a change in policy or more collaboration from labor unions.

Changes at the producer and shipper/packer level

Most food products at MSU are needed in relatively large quantities. As mentioned in the previous sections, Michigan producers need to make some practical and organizational changes to create market access to MSU.

- Producers need to adopt new and better production and farming practices to provide the quantity and quality of food items needed by MSU Food Stores (e.g., better and more acceptable potato and apple varieties, niche turkey meat products, and local and organic products).
- Product deliveries must be accurate and timely, so Michigan producers would generally need to improve their product delivery mechanisms. This would include the ability to meet the goal of one delivery for a variety of food items.
- Some of the producers and shippers currently have consistent buyers for their products. Changes in their market channels may require them to expand production and/or processing capabilities.
- Producers who want to work with MSU, whose school year does not completely coincide with the growing season, may also need to introduce some season-extension practices and appropriate storage and transportation facilities. In this regard, MSU's produce demand could be met throughout the academic year if season-extending methods such as greenhouses, hoophouses or other alternative growing methods were used and adopted by Michigan farmers.
- Production capacity and logistical arrangements will continue to be a challenge for most of the small producers. Several of these small producers will probably need to collaborate to provide a sufficient quantity of food items to meet MSU's demand. Meeting MSU's specific needs for grades, standards, packaging and other specifications is critical. As discussed in the previous section, one form of collaboration growers can pursue is the creation of a cooperative that collects

a wide range of Michigan products, adds value and delivers them to MSU.

Overall, in the future, activities of producers, shippers/ packers, distributors and manufacturers that want to supply Michigan-produced food items to MSU will be governed by the UFDS's farm-to-MSU policies and guidelines. The major contents of the draft farmto-MSU guideline presented to the research team and specifically designed for Michigan producers and processors include the following:

- 1. **Criteria for approved vendors:** (a) Suppliers, including producers, shall meet minimum guidelines set forth by MSU in an initial audit which will cover physical, chemical and microbiological attributes of each firm's products and/or services. Also reviewed are HACCP and Critical Control Points (CCPs) programs, Sanitation Standard Operating Procedures (SSOPS), Good Manufacturing Practices (GMPs), Good Agricultural Practices (GAPs), and employee training programs. (b) MSU will perform stringent finished product inspections. Products sold to MSU must meet or exceed predicated specifications such as quality, count, weight, temperature and rotation.
- 2. **General business forms:** MSU desires involvement of Michigan-based business partners in the wide range of dining and food service operations. To ensure that the food supply chain meets the criteria of quality, safe and healthy products, the following documentation is required: farm and production practice; vendor information form; supplier information form; contact information form; and statement of certification.

3. Certification:

Organic — Copies of USDA Organic or alternative third-party organic certification

Sustainable — copies of Food Alliance Certification or comparable third-party certification

Review "ISM" standards pamphlet, Potential Firm Doing Business and Food Stores Mission Statement

4. **State license:** A copy of their state license, if applicable

- 5. *Food safety:* The firm agrees that all fields, warehouses and manufacturing plants servicing MSU shall be subject to inspection by any person designated by MSU at reasonable times. The firm shall provide the following documentation: Third-party audits if applicable; HACCP & CCPs documentation of program; three-year history of water report; recall policy; SSOP; GMP; GAP; staff training; metal detection; Pesticide Residual Report; temperature, pathogenic, and traceback procedures.
- Compliance: (a) The firm shall be in compliance with all statutes, ordinances and regulations of federal, state and local governments applicable to the operation. (b) The firm shall state its named processor's and supplier's in-place procedures to assure non-bioterrorist adulteration of products in the supply chain to MSU.
- 7. *Insurance:* Food safety must have \$1 million in liability insurance
- 8. *General condition:* This includes guidelines regarding produce delivery, ideal temperature conditions and grades and standards. In general, produce shall be no older than 72 hours or less to assure freshness. All products shall be U.S. # 1 or U.S. Extra Fancy. No product shall be delivered at temperatures greater than 40°F.
- 9. *Product order placement:* Firm shall state firm's order method and order cutoff time and delivery schedule. Deliveries shall be to the delivery dock location for each food service operation.
- Delivery procedures and personnel: This section includes detailed guidelines for deliveries to Food Stores and Dining Services by distributors. Following are some of the contents: All shipments are subject to inspection; products are delivered individually labeled and invoiced by account number to each designated location.
- 11. **Delivery invoices/Pricing/Payment:** Following are some of the contents under this section: All orders shall be accompanied by an itemized invoice; firm shall provide separate invoices for each operation's account number; MSU desires that a system for electronic invoicing and payment be investigated,

or offered, to determine if efficiencies in accounts payable could be realized; invoices are prepared within ten days.

12. *Credits/Returns:* This section lists contents for returns, products damaged, products recalled and other related issues.

Other sections in the farm-to-MSU guidelines include issues related to equipment, the pricing/bid process, field review, sustainability and marketing. The full draft farmto-MSU guideline is available in the appendix.

Transition to a sustainable farm-to-MSU program

The research team believes that a viable and sustainable farm-to-MSU program could begin immediately and mature within the next few years. This includes purchasing a wide variety of Michigan products using various supply chains. A two-year transition period, for example, would enable UFDS to introduce changes and adjustments proposed in the previous sections. In these two years, priority could be given to increasing purchases of targeted Michigan food products using mainly a combination of current and newly established supply chain structures. On the basis of current MSU experience, UFDS's readiness and desire, and product availability while considering product preparation needs at dining halls, the research team recommends seven food items to be the target in the two-year period. In the case of milk and turkey, we observe that well-established supply chains with Michigan businesses are in place and anticipate increased Michigan purchases of these items mainly at the margins. For the other items, all fresh produce, varying degrees of changes in supply chains are needed.

The proposed goal for the next two years is to increase MSU's annual purchase of Michigan products from the currently estimated \$430,000 to about \$664,672 by the end of the second year. These goals assume no change in the general purchasing patterns of MSU Dining Services (e.g., consciously deciding to put more fresh potatoes on the menu); any such changes that would strive for "more local conscious eating" have the potential to increase the purchases outlined below. Proposed purchases in the various product categories, assumptions in product and market conditions, and required supply chain adjustments to meet these purchase goals are summarized and briefly discussed as below.

Milk. MSU currently has an established supply chain for this product. All MSU purchases come from a vendor that sources the product from Michigan farms. However, the market for this product appears to be saturated, so MSU's purchase of fluid milk in the next two years will not see a significant growth. The basic assumptions for milk purchases in the next two years are:

- MSU will continue to use this same supply chain to source fluid milk.
- All fluid milk would be sourced from Michigan producers.
- Purchasing will see just a slight increase (about 15 percent), the result of marketing and promotions that will lead to increased on-campus and off-campus milk consumption.

The 15 percent increase could also be met through additional purchases of cheese and other dairy products from milk produced in Michigan, as well as from expanded use of products with key characteristics (e.g., organically produced, pasture-based, animal welfare certified) prioritized in the Farm-to-MSU Guide.

Michigan has the capacity to meet any increase in demand from MSU. Michigan farm gate sales of dairy products topped \$944 million in 2006, dwarfing any potential growth in MSU's purchases.

Given these assumptions, purchase of fluid milk (including some other dairy products) from Michigan producers could reach up to \$230,000 by the end of the second year. This is a 15 percent increase over the current purchase or just 35 percent of all MSU's current annual dairy product purchases.

Turkey. Most of MSU's purchasing is from a vendor that sources the product from Michigan farms. Purchase growth in this area also appears to be limited. However, MSU appears to have demand for some niche turkey meat products. Following are some of the assumptions regarding increased turkey purchases from Michigan producers in the next two years:

• MSU is interested in increasing its purchases of new turkey products (e.g., turkey bacon) if the vendor pro-

duces them in forms acceptable to MSU. The vendor appears to have the willingness and capacity to add new product lines without the need for additional capital investment and labor.

- Currently MSU purchases 11 kinds of turkey meat products. Only four of these products are bought in relatively large quantities. The other seven are purchased in very small quantities. It can be assumed that MSU currently sources these product types in large quantities from other sources (e.g., from suppliers of beef, poultry, pork, seafood, vegan and other miscellaneous proteins), with most of these products coming from out-of-state producers. MSU can support the Michigan economy by replacing some of these outof-state products with Michigan turkey.
- MSU Concessions purchases various types of meat products (other than turkey) for a wide range of events throughout the academic year. Some of these products could be replaced with turkey products.
- There is a well-established supply chain to source turkey meat products from Michigan producers that MSU can continue to use.

These assumptions suggest that there is still some opportunity to increase the purchase of Michigan turkey products in the coming two years. We estimate that, if MSU implements some of the proposed changes above and the vendor makes the required adjustments, MSU's purchase could reach \$275,000 by the end of the second year. This is just 6 percent of all MSU's annual total protein purchases, which include beef, pork, poultry, fish, vegan and other miscellaneous proteins. According to 2006 data, Michigan produces 175 million pounds of turkey, with sales of \$82 million; the state can easily meet MSU's increased demand.

The next four items are all fresh produce, two of which can be stored (apples and potatoes) and two of which must be consumed in fresh market form shortly after harvest (lettuce and tomatoes). In the latter two cases, season-extension technologies, such as those currently being tested throughout Michigan and at MSU, will help to lengthen the periods in which these items can be sourced in-state. Table 2 below provides an overview of the current and projected purchases of these crops. **Apples:** Apples are produced in fairly large quantities in Michigan and are storable from August to June. In 2006, statewide apple sales topped \$120 million. MSU's quarterly purchases between 2004 and 2007 in the first and fourth quarters were higher than purchases in the second and third quarters. On average, purchases in the second quarter appear to be the lowest. The quarters conform to the calendar year (i.e., first quarter is January-March). Maximum monthly purchases of apples in each quarter between 2005 and 2007 are presented below.

Max.	1st	2nd	3rd	4th
purchase/	quarter	quarter	quarter	quarter
month	\$30,000	\$15,000	\$18,000	\$36,000

Apple purchases show a 12 percent increase between 2005 and 2006. Annual purchase projections for the coming two years are based on the following assumptions:

- Michigan produces a wide variety of apples, with some vendors listing up to 11 varieties. This will enable MSU to meet its demand for specific varieties. We assume that, in the next two years, 90 percent of apple purchases in September through March and 60 percent of April to June purchases could thus come from Michigan producers, especially if acceptable alternative varieties can be sourced (e.g., other baking apples to replace Granny Smith). In April to June, Empire (a popular variety) and substitutes for Granny Smith (e.g., Winesap) are not available. According to MSU records, Empire and Granny Smith account for about 40 percent of apple purchases during those three months.
- MSU has experience in buying Michigan apples in the past few years, and there is an established supply chain for these products that MSU can continue to use over the next two years.
- In the coming two years, purchase of Michigan apples will take place between September and June.
- Given these recent trends and Food Stores' experience and interest in buying Michigan apples, purchase of Michigan apples in the next two years could see a

significant increase. It can also be assumed that the market for fresh apples at MSU is not saturated.

Given these assumptions, annual purchases of Michigan apples are expected to reach about \$74,137 by the end of the second year, which equals about 78 percent of annual apple purchases.

Fresh potatoes. Potatoes are also produced in fairly large quantities in Michigan, although primarily for the processing market, and are storable from harvest to the end of the school year. Fresh potatoes in Michigan are available between August and March. NASS census data do not differentiate between fresh and processing uses, but most of the Michigan harvest goes to processing (e.g., potato chips and French fries).²³ Total 2006 Michigan farm gate potato sales were slightly less than \$120 million (from 1.4 billion pounds).

MSU's quarterly purchases between 2004 and 2007 show that purchases in the first and fourth quarters are higher than purchases in the second and third quarters. On average, purchases in the third quarter appear to be lowest. Maximum monthly purchases of potatoes in each quarter in 2005 and 2006 were:

Max.	1st	2nd	3rd	4th
purchase/	quarter	quarter	quarter	quarter
month	\$18,000	\$13,500	\$10,500	\$15,000

Fresh potato purchases generally show an increasing trend; in 2006, purchases were 15 percent higher than 2005 purchases. Annual purchase projections in the next two years are based on the following assumptions and conditions:

- The Michigan Potato Industry Commission Web site lists 50 Michigan tablestock (fresh) potato growers.²⁴ MSU can use these growers to source Michiganproduced fresh market potatoes.
- The Web site also lists about 16 Michigan potato dealers and shippers that could be used to source Michigan potatoes. MSU could also use its current vendors to source Michigan potatoes.
- Michigan potatoes grown for the fresh market are marketed between August and March. This includes potatoes that are held in storage. Monthly purchase

trends in the first, third and fourth quarters are the basis for projecting purchases of Michigan potatoes in the coming two years.

- It is assumed that, during these months, MSU will meet 50 percent of its fresh market potato needs by sourcing from Michigan producers.
- Following recent years' trends, projected annual purchases in the next two years are also expected to show some increase.

Given these assumptions, annual purchases of Michiganproduced fresh potatoes could reach more than \$16,565 by the end of the second year. Although MSU has had some quality issues, we assume that it could still buy this small amount from Michigan producers. In the long term, cooperation between MSU researchers and the state potato industry and council will be needed to develop and guide grower selection of appropriate varieties.

Lettuce and salad mix. Michigan-grown (nonspecialty) lettuce is widely available between June and September. Quarterly purchases between 2004 and 2007 show that lettuce purchases in the first and fourth quarters are higher than purchases in the second and third quarters. On average, purchases in the second quarter appear to be the lowest. Maximum monthly purchases of lettuce in each quarter in 2005 and 2006 were:

Max.	1st	2nd	3rd	4th
purchase/	quarter	quarter	quarter	quarter
month	\$33,000	\$16,000	\$21,000	\$28,000

Lettuce purchases between 2005 and 2006 showed a slight decline (4 percent). On the basis of recent trends, we assume no growth in overall purchases of lettuce.

Michigan is not a large producer of lettuce. It is not listed as a principal crop by NASS. As discussed before, Michigan lettuce is perceived as having significant quality problems (i.e., it is sandy, which poses problems in processing). Michigan lettuce is available from the fields from June to October. With season extension, it is

²³ http://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/Annual_Statistical_Bulletin/stats07/fieldcrops.pdf.

²⁴ http://www.mipotato.com/growers/grower_directory.html.
available from March to May and in November as well. We somewhat optimistically assume that difficulties in quality can be overcome, so that, in the short term, half of MSU's purchases from June to October and 5 percent during the extended season months will come from Michigan. With these assumptions, annual purchase of Michigan-produced lettuce is assumed to reach \$46,564 by the end of the second year, representing 19 percent of all MSU lettuce purchases.

We differentiate specialty lettuce (i.e., salad mix or mesclun mix) because it is a high-value crop, does not need to be commercially processed (chopped or shredded) and is being supplied by the SOF in a pilot program. As demonstrated by the SOF, it can be grown year round. MSU currently buys only \$5,038 worth of specialty lettuce annually. We project that, with directed investment and training, all of this can come from Michigan farms. This figure can increase if MSU chooses to substitute salad mix for head lettuce.

Tomatoes: Michigan-produced tomatoes (cherry, Roma, slicers) are available during August and September. With season extension, they can be reliably available in July and October as well. Quarterly purchases between 2004 and 2007 show that purchases in the first and fourth quarters are higher than purchases in the second and third quarters. On average, purchases in the third quarter are the lowest. Maximum monthly purchases of tomatoes in each quarter between 2005 and 2007 were:

Max.	1st	2nd	3rd	4th
purchase/	quarter	quarter	quarter	quarter
month	\$27,000	\$14,000	\$13,000	\$22,000

Tomato purchases showed a 15 percent increase between 2005 and 2006. Annual purchase projections for the coming two years are made on basis of the following assumptions and projections:

- Michigan fresh market tomatoes are a \$23 million business,²⁵ so it is assumed that Michigan produces tomatoes that could meet the needs of MSU.
- MSU has shown an interest in tomatoes being one of the key crops in its farm-to-MSU program.

- MSU can use its current Michigan-based fresh vegetable supplier to buy Michigan-produced tomatoes.
- Purchase of Michigan tomatoes will primarily take place in the months from August to October.
- During these months, 50 percent of tomato purchases are expected to come from Michigan producers. In the two extended-season months, 5 percent of MSU tomatoes will come from Michigan. In total, we project that \$17,000 of tomato purchases, 8 percent of total tomatoes, will be purchased by MSU from Michigan producers.

In the coming two years, MSU's purchase of these seven Michigan products (including salad mix) could increase to about \$664,672. MSU can use a wide variety of Michigan-produced vegetables in its dining services. According to the Michigan Department of Agriculture, most Michigan vegetables are grown in the southern half of Michigan's Lower Peninsula. The 10 counties with the greatest number of farms growing vegetables are Oceana, St. Joseph, Van Buren, Allegan, Berrien, Newaygo, Mason, Ottawa, Lenawee and Macomb.²⁶

This short-term increase in purchases of Michigan products will not require significant changes in the supply chain or in logistical arrangements. During this period, as learned from experiences of other universities, MSU could benefit from champions on the various administrative levels - people to push for changes, work with and educate vendors on delivery, invoicing and payment issues, smooth out bumps and generally shepherd the process. Second, there is an apparent need to more clearly articulate with vendors expectations related to quality and packaging, beyond grades and standards. Disagreement on these issues thwarted earlier efforts. MSU entities must also work to address the high barriers faced by farmers wishing to supply the university. We believe these changes may be best accomplished by adding a vendor devoted to local products and beginning efforts in a limited arena (e.g., Landon/Yakeley halls) to minimize the scope of problems as new chains are established. Conditions are ripe for MSU to learn from and adapt the UM pilot model and expand significantly on its impact.

²⁵ http://michigan.gov/mda/0,1607,7-125-1566_1733_22582-61905 --,00.html.

 ²⁶ http://michigan.gov/mda/0,1607,7-125-1566_1733_22582-61905
 --,00.html.

Table 2. Projected purch	ases of seven targeted products.
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Сгор	Total annual value of Michigan production (\$)	Field/ storage season	Extended season	Assumed purchases	Current annual total MSU purshases (\$)	Projected MSU purchases of Michigan grown (\$)
Salad mix	2,475,000 (listed as "greens")	June-Oct	Nov-May	100%	5,038	5,038
Lettuce	2,475,000 (listed as "greens")	June-Oct	Oct-Nov, Mar-May	50% field, 5% extended	245,746	46,564
Apples	120,055,000	Sept-June	n/a	90 % field/ storage	94,789	74,137
Tomatoes	23,000,000	Aug-Sept	Jun-Jul, Oct	50% field, 5% extended	205,936	17,368
Potatoes	119,906,000	Aug-March	n/a	50 % field/ storage	44,698	16,565
Turkey	82,000,000				175,000	275,000
Milk	944,000,000				200,000	230,000
	Totals across seven products				971,207	664,672

An interested food service manager is willing to lead a local purchasing pilot and manage a menu with local products. The start of a relationship between MSU's Student Organic Farm and Landon Hall is already under way, and the recent donation of an additional hoophouse for production dedicated to Landon Hall will only strengthen this relationship. If additional local vendors and products can be included, this local purchasing pilot will help establish delivery, purchasing and payment procedures for universitywide use in the future and will test and refine the Farm-to-MSU Guide before it is widely implemented.

Vendors must also adapt. First, they must see MSU as a valued account — "treat them like gold," in the words of a farmer. Product quality and packaging must be the best available; sending MSU second-rate goods makes all Michigan products look bad. If a specialty vendor is not added, existing vendors should add slots for many kinds of Michigan produce, not just the handful of most requested items. Vendors who do offer Michigan products should help provide promotional materials, highlighting the products, the names and locations of the farms, etc., as is done at UM. Such promotion will create and sustain demand for Michigan products over the long run. Finally, MSU could begin to experiment on a limited scale with small purchases from individual local farmers for use in individual dining halls.

Economic impacts of purchasing Michigan products

The research team estimates that MSU currently sources Michigan food products worth nearly \$430,000. This is about 2 percent of its total purchase that comes through Food Stores. But this still translates into \$430,000 that is added to Michigan's economy. These purchases have retained Michigan jobs, added some new jobs and increased revenues. Using standard economic multipliers, this will also create an annual additional indirect and induced economic impact of \$183,000 in other sectors. MSU's dollar contribution could be higher if we consider those Michigan food products that come to MSU through distributors without being labeled as such. These are food products that carry distributors' labels on their package and are mixed with products from other regions or states. Some universities and colleges are currently purchasing up to 30 percent of their food from local sources.²⁷ Michigan-sourced food items still constitute a very small percentage of what the MSU residence hall dining services serve, and this amount could certainly be increased. The research team has made a preliminary analysis of potential economic impacts at the production level if MSU increases its purchases of Michigan products in the coming five years. As a farm-to-MSU program is institutionalized, we expect the purchase of locally grown food to continue to grow. If MSU would purchase 24 percent of all its products locally (not just the seven items discussed above), this would contribute \$5.2 million to the state's economy. These improvements in total output will create additional jobs or help producers retain existing labor. Given the simplified assumptions, however, these results need to be interpreted with caution. A complete analysis of the economic impacts of MSU purchases on Michigan's agri-food sector requires a separate study.

CONCLUSIONS

With the release of the Farm-to-MSU Guide, UFDS has announced its intention to play a leading role in helping to create a more sustainable food system in Michigan and take steps toward that goal. This report, the result of collaboration of several institutions with the MSU College of Agriculture and Natural Resources, has examined current and potential supply chains to identify opportunities, barriers and mechanisms, and make the goals and aspirations of this guide a reality.

With \$22 million in annual food and supply purchases, Michigan State University Food Stores has the potential to benefit the state's agricultural economy. By taking a leadership role, setting the agenda, creating and testing models, joining forces with other institutions of higher learning, and bringing an array of public and private resources, both within and outside of MSU, to bear on this issue, MSU can catalyze a degree of change that is truly transformative and establish itself as a world leader in sustainable food system development. This report discusses the many opportunities that lie within this great state's diverse and vast agricultural bounty, as well as the challenges posed by the logistical realities of preparing tens of thousands of meals per day. We understand the profound change in outlook and culture within Food Stores that is needed to achieve the transformation; we call on various entities within the state, both public and private, to share both the cost and the benefit. We believe the establishment of the Landon Hall pilot project is a crucial step in the journey and look forward to tracking its success over time.

Though we spoke with a broad array of supply chain actors during this study, the findings are limited to those that we interviewed. We cannot claim these respondents are representative of MSU's vendors or those who supply other markets. In addition, our analysis of purchase data reflects only the period from the beginning of 2005 to the middle of 2007; any long-term trends or changes since mid-2007 would not be reflected here.

Finally, this report leaves some questions unanswered. A few key questions are: What is/are the best way(s) to get whole Michigan produce into the form used at MSU (chopped, shredded, etc.)? How much will existing vendors be able to supply local products with desired attributes, and to what degree will new channels need to be established? What is the optimal form of collaborative arrangement to consolidate, broker and deliver products from small and medium-scale farms? Finally, what is the potential and proper role for MSU in creating a consortium of state university and college food services to fundamentally transform the state's food system?

We applaud UFDS for its visionary commitment to a more sustainable food system and thank its staff members for their assistance with this study. We thank Drs. Buhler, Peterson and Hamm, the MSU College of Agricultural and Natural Resources, and the Michigan Agricultural Experiment Station for the opportunity to conduct this research. We hope our report will help UFDS begin and sustain its transition and inspire food service institutions nationwide to do the same.

MSU is an affirmative-action, equal-opportunity employer.

 $^{^{27}}$ http://www.sfu.ca/ \sim sustain/pdf/Toolkit-Jan % 202007-2.pdf.



FARM

TO

MSU

PROGRAM

IN COLLABORATION WITH:

UNIVERSITY HOUSING DINING SERVICES KELLOGG HOTEL & CONFERENCE CENTER SPARTY'S CONVENIENCE STORES & CAFÉS MSU CONCESSIONS & CATERING

MICHIGAN STATE UNIVERSITY HFS SUPPORT SERVICES FOOD STORES BUILDING 171 SERVICE ROAD EAST LANSING, MICHIGAN 48824-1233

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OVERVIEW

FARM to MSU

Division of Housing & Food Services Michigan State University

The vision of Michigan State University Dining Services is to provide an exceptional experience for its resident students and guests. Dining venues encompass students dining in a residence hall food service, concessions at Spartan sporting events, a vending snack, a great cup of Fair Trade coffee at Sparty's, or a five-star, chef-prepared meal at the Kellogg Center's State Room. The diversity of the customers we serve requires the best and safest foods being available for our culinary and food preparation staff.

As stewards of the University's food basket, the opportunity to engage with Michigan and regional agriculture is desired in the expansion of our sustainable initiatives. These endeavors shall support our core vision and more importantly, provide the educational forum that shall influence future decision making by individuals in their personal lives.

The *Farm to MSU Program* shall provide the mechanism to connect Michigan products to the MSU community. This document outlines our intentions, purchasing policy requirements, and regulatory documentation required to achieve an approved Vendor status with the University. Food safety is critical to our daily dining operations. A secure supply chain will not be compromised--it is our #1 priority.

It is preferred that the delivery of products, especially produce, be channeled via the umbrella of our current contractual agreements. This supply chain shall serve as a third-party clearinghouse for safety and sanitation compliance, along with optimal, qualitative product deliveries to our dining services. Our current suppliers are also interested in expanding their availability of Michigan and regional agriculture products, so the opportunity to do business beyond MSU's requirements may be desirable.

MSU Dining Services strives to be first in class for college and university food service programs. Future partnerships with the Michigan community shall be in direct support of this vision.

FARM TO MSU PROGRAM

Guidelines

CRITERIA FOR APPROVED VENDOR STATUS

Michigan State University desires the participation of Michigan-based business partners in our wide range of dining and food service programs. To ensure that our food supply chain meets the criteria of quality, safe and healthy products, Vendors shall meet specific guidelines set forth by MSU for an initial audit.

1) THE INITIAL AUDIT SHALL REVIEW WRITTEN DOCUMENTATION PROVIDED BY THE VENDOR:

- a) Product offerings (physical, chemical and microbiological attributes as applicable)
- b) HACCP and Critical Control Points (CCP's) program
- c) Sanitation Standard Operating Procedures (SSOP's)
- d) Good Manufacturing Practices (GMP's)
- e) Good Agricultural Practices (GAP's)
- f) Employee training programs
- g) Statement of Certification (page 15)
- h) Vendor Service Support Information Form (page 16)
- i) Farm and Production Practices Form (page 17)
- j) Farm Ownership Information Form (page 18)
- k) New Vendor Setup Request Form (page 19)
- I) Signature Pages (2) (pages 20 and 21)

Products sold to MSU shall meet or exceed predicated specification requirements such as quality, count, weight, temperature and rotation.

2) CERTIFICATION

Please include a copy of applicable certifications of your Firm's business products, as defined on page 18.

3) STATE LICENSE

Please include a copy of your state agriculture license.

4) FOOD SAFETY

The Firm agrees that all fields, warehouses and processing facilities servicing MSU shall be subject to inspection by any person designated by MSU at reasonable times. Please provide the following written documentation:

- a) Third party audits on file for continuing certifications
- b) Three (3) year history of certified water reports
- c) Recall Policy
- d) Metal Detection
- e) Pesticide Residual Report
- f) Temperature Management
- g) Pathogenic Management
- h) Traceback procedures

5) **COMPLIANCE**

- a) The Firm shall comply with all statutes, ordinances and regulations of federal, state and local governments applicable to the Firm's operation.
- b) Please state your Firm's named processor and supplier's in-place procedures to assure nonbio-terrorist adulteration of products in the supply chain to MSU (e.g., seeds, plant sourcing, fertilizer, other ingredients, finished goods, packaging, transportation, etc.).

6) **INSURANCE**

Certificates of Insurance shall be provided to MSU on an annual basis and as required by MSU contract suppliers. MSU requirements are outlined on page 8.

7) **GENERAL CONDITIONS**

- a) In general, produce shall be no older than 72 hours from harvest to assure freshness.
- b) At the time of delivery, all products shall have a minimum shelf life of six (6) days. State any exceptions.
- c) Please state ideal temperature storage conditions for all products. No product shall be delivered at temperatures greater than 38°F.
- d) All products shall be U.S. #1 or U.S. Extra Fancy. Sizing and weights are very important as they relate to yield and food costs.
- e) MSU reserves the right to refuse delivery of any product(s) where there may be a question or evidence as to whether proper storage and/or sanitation practices have been followed.
- f) Produce shall be clean and free of excess dirt material, and crated in clean, food safe boxes, packed by the requested packing unit.
- g) No substitutions shall be made without prior approval from the Procurement Coordinator. The decisions on substitutions shall be made by MSU based on cost, intended use for the menu, customer acceptance and judgment of management.
- h) Whenever a Firm's place of business, mode of delivery, or source of supply has been disrupted by strike, act of God, shortage, or any other disruption beyond the Firm's control, it shall be the Firm's responsibility to promptly notify the Procurement Coordinator when product qualities and quantities are affected. MSU may elect to cancel all orders on file with the Firm and place said orders with another source.
- i) For the purpose of the Agreement, MSU is a non-profit, tax-exempt business organization. No taxes (e.g., sales, use, excise, et al) shall be levied against MSU during the Agreement.
- j) Title does not transfer to MSU until receipt of goods.

8) QUALITY ASSURANCE

- a) The University requires an effective, in-place quality assurance program with well-established procedures for Vendor approval status.
- b) Firms shall describe compliance with the desirable specifications, along with a detailed description of its quality control and quality assurance procedures, with an elaboration on the following six (6) topics:
 - 1) Describe the process or program used for supplier selection to assure products are produced with consistently high quality grade in a safe food supply chain.
 - 2) Describe the system for reinforcing adherence to product specifications.
 - 3) Describe how decisions are made for changing specifications and how would it be communicated to the University.
 - 4) Describe the procedure for guaranteeing the quality and safety of your Firm's products.
 - 5) State the procedures for product recalls, tracking, methods for removal and replacement handling, including the invoice and communication process.
 - 6) Describe the acceptance and inspection procedures for receiving products into the Firm's storage facilities. Include the type, frequency and amount of inspection, product characteristics to be inspected, criteria for approving and rejecting product, and record-keeping procedures.

- c) The University desires that all products be identified with decipherable dates (open code dates or pull dates), as determined by the type of product delivered. The Firm shall provide a product code number key listing. Products with open code dates shall clearly show the use-by date, date of production or processing, sell-by date, best-if-used-by date, or similar markings.
- d) The Firm shall provide the last three (3) inspection reports to validate standards of safety, and Hazard Analysis Critical Control Point (HACCP) Food Safety for the Firm and named processing facilities.
- e) The Firm shall be a licensed dealer under the Perishable Agricultural Commodities Act, and shall have proof of a license from the U.S. Dept. of Agriculture.
- f) Provide a copy of both the Firm and Firm's named processor HACCP programs for safety and sanitation. The information should include training regarding worker health and hygiene, training about CGMPs, facility layout, cleaning and sanitizing, production and process controls, storage and transportation.

9) DELIVERY PROCEDURES AND PERSONNEL

For Phase One of the Farm to MSU program, all products shall be subject to sale and delivery via the current approved produce companies currently providing services to the MSU campus.

This protocol will allow for channeling product through the current established supply chain and assure order fill requirements for the MSU customer base. Compliance requirements for doing business with the MSU approved produce companies shall be defined by each produce Firm.

As the Farm to MSU program evolves and/or when applicable, it may be determined, for practicality reasons, products may be delivered directly to the MSU campus.

As the program evolves the following guidelines for deliveries to MSU Dining Services shall be considered:

- a) All shipments are subject to inspection upon arrival at MSU. Receipt of damaged product may result in order refusal.
- b) The Firm shall deliver all products individually labeled and invoiced by account number to each designated location. The products shall be clean and in food-safe boxes, packed by package units. Proper temperature must be maintained throughout the staging, loading, transport and delivery of products.
- c) The expectation is that the Firm shall guarantee delivery on the days designated.
- d) Deliveries to MSU Dining Services shall be between 6:00 am and 10:00 am. Deliveries to the Food Stores Building shall require a delivery appointment. MSU requires notification of late deliveries, which is defined as: one (1) hour or more past the start time of the delivery schedule (6:00 am).
- e) All of the Firm's facilities and delivery vehicles shall conform to local, state and federal rules and regulations regarding sanitation and are subject to inspection by MSU or other officials at the discretion of the University. The trucks shall be equipped to maintain the appropriate temperatures and product segregation as necessary. All deliveries shall be made in clean covered trucks (no tarp covers).
- f) All Firm employees shall conduct business with MSU personnel in a competent, courteous and professional manner. The Firm's personnel shall be well groomed.
- g) Delivery personnel conducting services shall identify themselves to MSU management personnel before and at the conclusion of business in an MSU facility.
- h) MSU reserves the right to require a change in delivery or account representation if the conduct by the Firm's personnel, in the opinion of MSU, is unprofessional.
- At the time of delivery, a designated MSU employee will "check in the order" verifying the accuracy of the order and invoice and the quality of the products received. Any deviations or problems noted at the time of delivery will be communicated to the Firm's delivery personnel who shall have the ability to issue and authorize credits for damaged, improper, returning, or

missing products at that time. The Firm's delivery personnel may be required to communicate with the dining services management concerning product shortages or any other problems with the delivery.

- j) All produce shall be fresh, and without damage or age defects, as defined by MSU. Michigan State University reserves the right to refuse delivery of any product(s) where there may be a question or evidence as to whether proper storage and/or sanitation practices have been followed.
- k) Signatures serve as the authorization for payment. MSU reserves the right to refuse payment of unsigned invoices.
- I) Signage with the Firm's logo shall be prominently displayed on delivery vehicles the Firm utilizes to conduct business on the MSU campus.

10) EQUIPMENT

All equipment loaned or provided by the firm will at all times remain the sole property of the Firm. With respect to any equipment loaned or provided by the Firm, MSU shall:

- a) Refrain from removing equipment from the facilities unless MSU receives prior written approval.
- b) Refrain from encumbering the equipment or permit any attachment to it, unless authorized in writing to do so by the Firm.
- c) Reimburse the Firm for any loss of or damage to the equipment caused by MSU employees or agents' negligent or willful acts or omissions. MSU will not be responsible for loss of or damage to any equipment caused by vandalism or the actions of third parties (other than MSU employees or agents).

11) DELIVERY INVOICES/PRICING/PAYMENT

During PHASE ONE of the *Farm to MSU Program* all invoicing shall be processed via the approved produce Vendors.

As the *Farm to MSU Program* evolves, direct billing procedures shall be established with the following guidelines:

- a) All orders shall be accompanied by an itemized invoice, in triplicate (3), including the dining operation name, purchase order number, account number, product name, unit cost, pack, amount ordered, amount delivered, extension, total cases delivered and total charges. All variances, substitutions and shortages shall be noted on the invoice.
- b) One copy of the delivery ticket shall be left with the merchandise in each dining service operation, and the second copy shall be submitted to MSU Food Stores Accounting by the Firm no later than the end of each delivery day.
- c) The Firm shall provide separate invoices for each operation's account number even if they are delivered to the same delivery location.
- d) At the time of delivery, a designated, and duly authorized MSU employee, shall sign the Firm's invoice. Signatures serve as the authorization for payment by HFS Procurement. MSU reserves the right to refuse payment of unsigned invoices.
- e) MSU desires a system for electronic invoicing and payment.
- f) The cash discount period, if offered, shall begin from the date of receipt of an acceptable invoice. MSU shall pay per the Firm's terms. Please do not send statements.
- g) The Food Stores purchase order number shall be stated on all correspondence regarding this contract (i.e., shipping documents, invoices, and general information). Your statement for payment may be submitted to MSU Food Stores on a weekly, every other week, or monthly basis. MSU shall issue a check within ten (10) business days of receipt.
- h) Invoice payments are processed within ten (10) business days; you will receive a check (in the mail) after the invoices are processed. ACH payment processing is desired and offers shorter payment terms.

12) CREDITS/RETURNS

- a) Returns shall be accepted by the Firm under the following conditions; however, this list is not exhaustive:
 - i) Products shipped in error.
 - ii) Products damaged in shipments.
 - iii) Products with concealed or latent damage.
 - iv) Products that are recalled.
 - v) Products that do not meet reasonable shelf life requirements.
 - vi) Products that do not meet minimum quality requirements.
 - vii) Products delivered in unsanitary delivery vehicles.
 - viii) Products delivered that exceed the minimum/maximum specified temperature.
- b) The Firm's delivery personnel shall write credits incurred on the same day of delivery.

13) FIELD REVIEW

Tours of the Firm's farms and facilities are subject to MSU and third-party review by the approved MSU produce suppliers.

14) PRICING/BID PROCESS

MSU reserves the right to conduct business for the *Farm to MSU Program* with the Firm(s) that, in the assessment of MSU Officials, will best serve the requirements of MSU, and is not obligated to purchases based on the lowest price. Product quality and safety compliance are critical to the award process.

15) **SUSTAINABILITY**

- a) MSU prefers the Firm's culture and business support sustainable environmental practices. Please provide supporting documentation of your Firm's sustainability initiatives.
- b) MSU prefers the Firm's culture and business support Human Rights initiatives. Please provide supporting documentation of your Firm's human rights initiatives.

16) MARKETING

- a) When feasible, Dining Services shall identify your product when it is served. Please provide a digital copy of your logo and a photo of the operation/producers/family for the marketing signage.
- b) MSU Housing & Food Services Marketing Communications would like the opportunity to photograph farm sites for purposes of education in relationship to products being served in the dining services.

17) **PRODUCT QUANTITIES**

Product quantity information is available by contacting the Purchasing Coordinator. Purchased quantities of unprocessed produce for 2007-2008 are outlined on page 14.

18) CANCELLATIONS

The agreement may be cancelled by MSU, the Firm, and/or third-party supply chain Vendors if any party defaults in performance of any material or service obligation, and such default continues for thirty (30) calendar days after written notice of default is received by the other parties.

19) **MSU CONTACTS**:

Office Telephone: 517.355.0273

Debbie Jenks, Procurement Coordinator, Produce Matthew Rodewald, Procurement Coordinator, Center of Plate Marta Mittermaier, HFS Support Services Manager Office Fax: 517.353.9024

JenksD@msu.edu Rodewald@msu.edu Mitterma@msu.edu

MICHIGAN STATE

LIABILITY AND INSURANCE

The Firm shall bear full responsibility for any loss of or damage to any MSU property, equipment or facilities that may arise from, or be connected with the use of MSU facilities by the Firm's employees or agents in the course of their employment by the Firm related to the Contract.

In the performance of specified services under the Contract, the Firm shall purchase and maintain the following insurance and shall include any subcontractor or anyone directly or indirectly employed by any of them, or anyone who acts for them may be liable for the duration of the agreement.

- A. <u>Worker's Compensation Insurance</u>, Coverage A, with limits statutorily required by any applicable Federal or State law and Employer's Liability Insurance, Coverage B, with minimum limit of \$500,000 per accident.
- B. <u>Automobile Liability Insurance</u> covering liability arising out of any owned, hired, and non-owned vehicles with minimum limit of \$1,000,000 each accident and Personal Injury Protection as required by statute.
- C. <u>Commercial General Liability Insurance:</u> a minimum limit of \$1,000,000 each occurrence/\$1,000,000 general aggregate. Coverage shall be written on ISO 1998 form CG0001 or equivalent and include personal injury and advertising injury, independent contractors, acts of terrorism by force, biological or chemical, products/completed operations, broad form property coverage and liability assumed under an insured contract.

All Risk Property Insurance/Theft shall be written for full replacement cost value insuring the Firm's equipment.

- D. Insurance policies shall be issued by companies licensed or approved to do business within the State of Michigan.
- E. Insurers shall posses a minimum A.M. Best rating of A.
- F. The insurance policies, except Worker's Compensation shall be endorsed to Michigan State University, its Board of Trustees, agents, officers, employees, and volunteers as "Additional Insureds".
- G. **Certificates of Insurance** shall be provided to MSU by the Firm with the RFP and the Contract and shall include the provision for the notification to the certificate holder of any cancellation or mutual alteration in the coverage.

Prior to commencing work or services, the Firm shall furnish the University with certificates of insurance evidencing the required coverage, conditions, and limits required by this Contract. The completed Certificate of Insurance shall contain the following information:

- Name and address of agent, phone number and fax number
- Name of insurance company(ies) and policy number(s)
- Policy period
- Name and address of insured
- Description of coverages(s), including bio-terrorism
- Name/Number of Project Policy limits
- Special instructions (e.g., addition of Michigan State University as additional insured waivers of subrogation, identification of project or operations with respect to certificate being issued)
- Michigan State University as certified holder
- Signature of the insurer's agent or representative and date
- In the event any insurance policy(ies) required by this Contract is (are) written on a "claims made" basis, coverage shall extend for three years past completion and acceptance of the Firm's work or services and shall be evidenced by annual certificates of insurance.
- J. All policies of insurance shall be on a primary basis, non-contributory with any other insurance and/or selfinsurance carried by the University.
- K. Cancellation or non-renewal of policies required under the contract and a renewal certificate shall be received at least fifteen (15) days prior to expiration.
- L. The liability of all equipment shall remain the sole responsibility of the Firm. Under no circumstances shall MSU incur any liabilities whatsoever for damage, pilferage, acts of violence, fire or theft, including liability for damages, injury, or other fault.
- M. Failure to maintain the required insurance in force may be cause for the University to cancel and terminate the Agreement.
- N. All insurances shall remain in force for the duration of the Contract. Coverage rates may be subject to reasonable change as deemed necessary by the University.
- O. Annual renewals shall be provided by the Firm prior to award contract extension(s).



AUXILIARY SERVICES H&ES PROCUREMENT

Ι.

171 Service Rd. Michigan State University East Lansing, MI 48824-1233 Phone: 517/355-0273 Fax: 517/353-9024

> MSU is an affirmative action/ equal opportunity emplover

FARM TO MSU

Importance of Farm to MSU Program

- 1. Provide an opportunity for Michigan farmers, processors, brokers, and food distributors to market their products and services.
- 2. Provide the MSU community with a healthy diet, and fresh, local foods when in season.
- Provide safe and healthy foods grown with high levels of environmental stewardship. 3.
- Contribute to the vitality of our rural and urban communities. 4.
- Connect Michigan State University to Michigan communities. 5.
- 6. Broaden our awareness of environmental, economic, social, and cultural resources, both locally and globally, in support of our future generation's ability to maintain a sustainable life.

Goals

- 1. Focus on local growers and farmers who use sustainable practices.
- 2. Support Michigan businesses as they provide jobs and economic development.
- 3. Develop dining services programming featuring Michigan agriculture.
- 4. Educate the MSU community about sustainable practices and the importance of regional food systems-where and how food is grown.
- 5. Provide value to MSU dining services through support of sustainable, organic, and local producers.
- 6. Collaborate with MSU and Michigan-based organizations to strengthen the ties between the
- community and MSU in an effort to provide a healthy regional environment.
- 7. Serve as better stewards of the Earth.

1.

2.



USDA

Definitions

- LOCAL
 - Within the State of Michigan and surrounding states within 250 miles of East Lansing, Michigan
- REGIONAL
 - Within a surrounding State radius of 600 miles of East Lansing, Michigan
- 3. ORGANIC
- USDA certified 4.
 - SUSTAINABLE
 - Food Alliance certified

Considerations for Five Year Plan

- 1. Incorporate sustainably raised products in dining services.
 - a. Feature grain-fed or organic proteins.
 - b. Conversion to hormone-free proteins and dairy.
 - c. Feature seasonal produce.
- 2. Initiate educational programming through the University Food Systems Committee.
- 3. Marketing development/publications telling the story behind sustainable, local, and organic food products.
- 4. Offer field trip experiences for staff to Michigan Farms and processing facilities.
- Incorporate products from the Student Farm into dining services menus. 5.
- Implement dining boutiques offering sustainable products year round. 6.
- 7. Implement Harvest of the Month Program, similar to the one in the state of California.
- 8. Develop linkage with K-12 Farm to School Program.

ISM [™]	Principles and Standards of Supply Management Co	
	LOYALTY TO YOUR ORGANIZA	ATION
	JUSTICE TO THOSE WITH WHOM	YOU DEAL
institute for	FAITH IN YOUR PROFESSIO	DN
supply manageme	n.	
From these principles are	e derived the ISM standards of supply manage (Global)	ement conduct.
1. Avoid the intent and ap actions and communic	ppearance of unethical or compromising practice i ations.	n relationships,
	the employer by diligently following the lawful i asonable care and granted authority.	nstructions of
 Avoid any personal business or professional activity that would create a conflict between personal interests and the interests of the employer. 		
4. Avoid soliciting or accepting money, loans, credits or preferential discounts, and the acceptance of gifts, entertainment, favors or services from present or potential suppliers that might influence, or appear to influence, supply management decisions.		
	proprietary information with due care and proper co cations and governmental regulations.	onsideration of
6. Promote positive suppl	ier relationships through courtesy and impartialit	у.
7. Avoid improper recipro	ocal agreements.	
8. Know and obey the lett	ter and spirit of laws applicable to supply manager	nent.
9. Encourage support for	small, disadvantaged and minority-owned busine	sses.
10. Acquire and maintain	professional competence.	
11. Conduct supply management activities in accordance with national and international laws, customs and practices, your organization's policies, and these ethical principles and standards of conduct.		
12. Enhance the stature of	the supply management profession.	
Adopted 1/2002		1
FS 234A 11/03/5M	www.ism.ws © 2002 Institute for Supply Management "; all rights reserved. Material may be copied and used without permission with credit given to ISM.	printed on recycled paper



MSU BAKERS - FOOD STORES

Vision Statement

Exceptional people providing exceptional services to the University community.

Mission Statement

The MSU Bakers and Food Stores Team Members are committed to enhancing the student experience by providing quality, valued products and services to the University community.

Value Statement

- Initiate leading-edge customer service in our daily activities.
- Encourage cooperative efforts throughout the organization and recognize each individual's talents and creativity.
- Conduct business in a professional and ethical manner.
- Manage resources effectively to assure sound financial growth.

• Continue to broaden our awareness of environmental, economic, political, social and cultural resources, both local and global, in support of our future generation's ability to maintain a sustainable life.

Adopted January 1, 2007

2007 – 2008 Product Velocity Report

AVAILABILITY	PRODUCT	PACK	SALES UNIT
August - October	Tomatoes		
	Whole Red	10 lb	475 cs
			72 cs
	Roma	12/1	
	Grape	Bulk	500 cs
	Cherry	10 lb	70 cs
	Roma	10 lb	50 cs
July – September	Cucumbers	55 lb	120 cs
		12 ct	80 cs
June – October	Green Peppers	25 lb	150 cs
		5 lb	236 cs
August – March	Potatoes		
	Red A	50 lb	35 cs
	Red B	50 lb	300 cs
	Yukon	50 lb	10 cs
July – October	Broccoli Heads (Trimmed)	14/18 ct	100 cs
August – September	Sweet Corn	48/1	60 cs
July – September	Squash		
	Zucchini	10 lb	150 cs
	Zucchini	20 lb	110 cs
	Yellow	10 lb	70 cs
	Yellow	20 lb	80 cs
	Acorn	20 lb	40 cs
	Acorn	40 lb	25 cs

MICHIGAN STATE

August 1, 2007

TO: All Concerned

FROM: Marta Mittermaier

RE: A Potential Firm Doing Business with MSU

When contacted by a Firm requesting to offer their business services and/or interest to participate in the University's bid process, the following written documentation is required prior to becoming an approved Vendor for MSU:

- The nature of the Firm's product/service; product guide of available merchandise
- The Firm's business address and representative contact; internet contact
- Federal Tax ID number
- The Firm's Equal Opportunity Policy Statement
- Copy of required licenses for doing business
- Certificate of Insurance naming MSU as a covered party; Liability and Hold Harmless coverage; Terrorism coverage; Worker's Compensation coverage
- Status of Business (MWS)
- Credit application, if required for MSU
- Methods of payment options required by the Firm; payment terms; EFT
- If a food manufacturer/grower, the Firm is required to provide the two most recent inspection reports by the Firm's licensing body; HACCP program documentation; and if applicable, methods of delivery to MSU via temperature controlled environment.
- If a food manufacturer/grower or a site/facility, inspection by MSU is required
- A statement of personal interest(s) within the University
- Other specific requirements based on the nature of the product/service



AUXILIARY SERVICES H&FS PROCUREMENT

171 Service Rd.

Michigan State University East Lansing, MI

48824-1233 Phone: 517/355-0273 Fax: 517/353-9024 The initial contact for potential Vendors will be the HFS Procurement Office. This will facilitate the process for evaluating Vendor qualifications, determine if the Firm has other avenues of business opportunity with the University, and assure the Vendor being paid for their services by MSU. In today's business climate, it is essential that our business agreements be with reputable Firms to ensure the welfare of our customers. The required written documentation shall support the criteria for approval and be consistent with the entrusted responsibility given by Michigan State University's Board of Trustees. Separate negotiations or receipt of products/services without a Firm's approval may result in an individual's personal responsibility for payment.

MSU is an affirmative action/ equal opportunity employer

Please Return Michigan State Univ	versity Supplier Information	Please Return
Wichigan State Oniv	Substitute W-9	
Food Stores Procurement Felephone: 517.355.0273 Fax: 517.353.9024	NEW / UPDATE (Please Circle)	171 Service Road East Lansing, MI 48824-1234 MSU F.E.I.N. 38-6005984
Please provide your Federal Employer Identification Number	If no FEIN is involved	d, please provide your Social Security Number.
Please check all appropriate options: Individual/Sole Proprietor Corporation f Individual/Sole Proprietor, provide name of individual:		
Company Name:Company Acronym/Short Name:	Area Cod	e Number Extension
Contact Person:	Toll Free Telephone	Number:
Division:	Fax Number:	
Address:		
City, State, Zip:		
Customer Number/Account # for MSU:	Certifications (i.e., DI	JNS):
Purchase Orders and Requests for Quotations Address	Remittance/Checks/F	Payments Address
Company Name:	Company Name on I	nvoice:
\ddress:		
City, State, Zip:	City, State, Zip:	
Payment Terms: <u>2% 10 Net 30 1% 10 Net 30 Net 30 Net 20</u>	Do you require a har	d copy of verbal orders? Yes No
Other: (please circle one) Shipping Terms (check one): MSU Department Pick-up FOB Destination (Vendor Truck, Parcel Carrier, Common Ca FOB Destination Freight Collect FOB Shipping Point Freight Collect Other:	x2,500.00. Does you Vendor is a: rrier) Dealership	a purchasing card for transactions less than Ir firm accept MasterCard? Yes No _ Distributor Manufacturer
For Reporting Purposes Only		
51% Controlled & Operated: (check all applicable) Minority Owned (If Minority Owned, enter % of owr Woman Owned (W) Small Business (S) Handicapper (Z)	hership $\rightarrow \rightarrow \rightarrow$	% of Minority Ownership African/Black American owned (B) Asian Indian American Owned (A) Asian-Pacific American Owned (P) Hispanic American Owned (H) Hative American Owned (N)
Commodity(s):		
For fax or mail returns, please sign. Signature is not needed for e	e-mail returns.	
signature: Title:	:	Date:
We would appreciate your enclosing a copy of your price list, pr	roduct description literature or other materia	that will explain your products and services.
	FOR MSU USE ONLY	

STATEMENT OF CERTIFICATION

The Firm hereby certifies:

- 1. The undersigned Firm, having examined the documents and being familiar with the conditions surrounding the proposed program, hereby proposes to provide such services meeting the requirements outlined.
- 2. The Firm understands that the University reserves the right to reject any and all proposals, waive irregularities or technicalities in any offer, and accept any offer in whole or in part which it deems to be in its best interest.
- 3. The Firm hereby certifies: (a) that its proposal is genuine and is not made in the interest of or on behalf of any undisclosed person, Firm or Corporation; (b) that the Firm has not directly or indirectly induced or solicited any other Firm to put in a false proposal; c) that the Firm has not solicited or induced any person, Firm or Corporation to refrain from participating; and (d) that the Firm has not sought by collusion to obtain any advantage over any other Firm or over the University.
- 4. The Firm agrees that the response to this proposal is a legal and binding offer and the authority to make the offer is vested in the signer. Minor differences and informalities shall be resolved by negotiation prior to acceptance of the offer.

FIRM:	BY:
ADDRESS:	TITLE:
	DATE:
PHONE #:	FAX #:
CELL PHONE:	E-MAIL:

VENDOR SERVICE SUPPORT INFORMATION

To determine the individuals and points of contact, please complete the following:

1.	COMPANY NAME/ADDRESS	CONTACT NAME	
			(Telephone)
			(Fax)
			(Cell)
			(E-Mail)
			(0ther)
2.	ACCOUNTS PAYABLE/CREDITS/ADDRESS	CONTACT NAME	(Telephone)
			(Fax)
			(Cell)
			(E-Mail)
			(0ther)
3.	ORDER PLACEMENT CONTACT/ADDRESS	CONTACT NAME	(Telephone)
			(Fax)
			(Cell)
			(E-Mail)
			(0ther)
4.	OTHER/ADDRESS	CONTACT NAME	

FARM TO MSU

1.	Farm and Production Practices Food Safety Ques Is there livestock on farmland? If yes, what is the location of the livestock in relation to the water source?	oYes	aire ∘No
2.	What is the source of water used for irrigation?		
3.	Has the water been tested in the last year?	∘Yes	∘No
4.	Are test records on file?	∘Yes	∘No
	(Please provide copies for the last three (3) years.)		
5.	If raw manure is incorporated into the soil, is it added at least two (2) weeks prior to planting or 120 days prior to harvest?	∘Yes	∘No
6.	Are baskets, totes, or other containers used to collect or transport food products cleaned and sanitized before each use?	∘Yes	∘No
7.	Are packing materials used for food products kept clean?	oYes	∘No
8.	Are packing containers appropriate for food contact? What type of containers are used to ship the products?	∘Yes	∘No
9.	Are food products kept at appropriate temperatures (34-38°)?	∘Yes	∘No
10.	How is the source of wash water used on food products and storage containers protected from cross-contamination (i.e., manure, livestock, and pets)?		
11.	Are food products washed, rinsed, and sanitized?	∘Yes	∘No
	What is the sanitizer used?	-	
12.	Are food product contact surfaces washed, rinsed and sanitized at the end of the day?	∘Yes	∘No
	What is the sanitizer used?	-	
13.	Is there a pest control program in place (for rodents, mice, etc.)? What is the pest control program?	∘Yes —	∘No
14.	If there is a food product packing facility, is it enclosed?	 ○Yes	∘No
15.	Is there a restroom, including hand-washing facility, in the packing facility?	∘Yes	∘No
	If "No", where is the closest restroom facility?		
16.	What guidelines or policies exist to insure employee health?		

FARM TO MSU Farmer Ownership Information Form

Contact Name	Please place a mark next to your preferred mode of contact.		
Company/Farm Name	oPhone:		
Address	oCell Phone:		
City, St, Zip	oE-mail:		
Have you sold to MSU before? oYes oNo	Minority Owned? oYes oNo		
Products (check all that apply): OMeat OProduce	oDairy oOther		
Examples (raspberries, walnuts, organic milk, orga	inic green beans, etc.)		
Number of acres: 00 - 50 051 - 200 0201 - 50	00 ○501+		
Number of generations: 01st 02nd 03rd 04t	h +		
How did you find out about the <i>Farm to MSU Prog</i> oAnother farmer organization oMSU			
Have you direct marketed before? •With a restaurant •To a farmer's market •With a university •Other			
Please list additional information about your opera certification, use of antibiotics & pesticides, etc.) in			

NEW VENDOR SETUP REQUEST FORM

VENDOR INFORMATION:	
Vendor Name:	
Street Address:	
City, State, Zip Code:	
Vendor Signature:	
Remittance Information:	
BANK INFORMATION:	
Bank Name:	
ABA Routing Number:	
Account Number:	
Requestor Name:	
Signature:	
Approver Name:	
Signature:	
Date Approved:	
CASHPRO WEB INFORMATION:	
Date Entered:	
Ву:	
MICHIGAN STAT UNIVERSIT	Food Stores

MICHIGAN PRODUCTS PROGRAM

The Agreement formed by this written document, signed by both parties, constitutes the entire agreement between the parties with respect to the matters covered herein and there are no oral understandings or agreements with respect thereto. No variation or modification of this agreement and no waiver of its provisions shall be valid unless it is in writing and signed by the duly authorized officers of the Firm and Michigan State University.

	DATE:
Firm:	
Firm Name:	
By: (Signed):	
	<u>.</u>
Date:	
	CCEPTANCE sity constitute the acceptance of the agreement between
Debbie A. Jenks Procurement Coordinator Food Stores	DATE ACCEPTED
Marta M. Mittermaier HFS Support Services Manager Food Stores	DATE ACCEPTED
Guy D. Procopio Director Auxiliary Services	DATE ACCEPTED

MICHIGAN PRODUCTS PROGRAM

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DATE:
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DATE ACCEPTED

Marta M. Mittermaier HFS Support Services Manager Food Stores DATE ACCEPTED

Guy D. Procopio Director Auxiliary Services DATE ACCEPTED