



Final Report for

FY 2008 Specialty Crop Block Grant Program—Farm Bill: 12-25-B-0836

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Project A – Northern Plains Potato Growers Association

Final Report

Summary of Activities

The purpose of this project is to better position the potato industry in Minnesota and North Dakota to maximize profits for potato growers through improved grower education programs involving the Area Extension Agronomist focusing on improved cultural practices, support for our breeding program activity and the continuation of our market initiative. This grant has allowed us to continue to build upon the results we have accomplished through a previous Specialty Crop Block Grant.

Project Approach

Our approach to this Specialty Crop Block Grant was to work through Dr. Nick David, NDSU/UMN Extension Agronomist for Potatoes, to improve cultural practices and accelerate new variety releases through increased and improved support to the breeding programs and disseminate that information to growers. Dr. David was responsible for coordinating all research with North Dakota State University (NDSU), University of Minnesota (UMN) and United States Department of Agriculture-Agricultural Research Service (ARS). He was responsible for all aspects of the research from soil preparation through storage testing, sharing the information with growers and variety release. Through this method one individual would be involved hands-on from start to finish. Our approach to the marketing and advertising side of the equation was a continuation and enhancement of our fresh market program, designed to improve demand and grower returns.

Performance Goals and Progress

1. Maintain the strength of our fresh marketing and advertising campaign.

- Continued cooperative effort focused on conferencing, together with inventory, pricing and demand aspects of the market.
- Provide potato dish samples, frozen product samples and potato chip samples at various food and trade shows.
- Our advertising campaign is matched by our fresh shippers on a pay to participate basis which improves our market exposure.
- Continue to upgrade our display booth and trade show equipment.
- Continue to place strategically integrated advertisements into sectional editorials of various produce publications.
- We have developed two videos which will be an important part of our trade show display and intend to use them as a web stream on our updated website which was designed by Anchor Marketing. A link to our updated website is <http://www.nppga.org/>

- Attended national food shows which focus on both foodservice and fresh market promotion.

May 2009:

Exhibit at National Restaurant Show, Chicago, IL

July 2009:

Exhibit at North Dakota State Fair, Bismarck, ND

August, 2009:

Exhibit at Russ Davis Food Show, Wadena, MN

Exhibit at Northern Plains Potato Growers Field Day, Hoople & Inkster, ND

Exhibit at Schnuck's Fresh Expo 2009, St. Louis, MO

October 2009:

Exhibit at Produce Marketing Association Convention, Anaheim, CA

Exhibit at North Dakota Winter Shows, Valley City, ND

January 2010:

Exhibit at 2010 Potato Expo Convention, Orlando, FL

Exhibit at Washington-Oregon Potato Conference, Kennewick, WA

February 2010:

Exhibit at International Crop Expo, Grand Forks, ND

May 2010:

Will Exhibit at National Restaurant Show, Chicago, IL

2. Improve cultural practices and expand the number of varieties released from our potato breeding programs as well as disseminate this information to growers.

- Continue to expand the number of varieties released from potato breeding programs in cooperation with North Dakota State University and University of Minnesota. We have increased several red, white and russet varieties.
- The Northern Plains Potato Growers Association has made the decision to move our irrigated research from Tappen, ND to the Forest River Colony near Inkster, ND. Our Tappen research site is a very long commute from the universities and the costs were beginning to outweigh the advantages of a near perfect site for irrigated research. The research community also felt they were not accomplishing proper management of the plots due to the distance of travel, time and expense allocated to that travel. We agreed that moving our irrigated site closer to other research sites near Grand Forks, Larimore, Hoople and Park River was in our best interests. The site is also over twice as large as our Tappen site and will give us the ability to increase our rotation substantially.
- We are doing potato research at twenty-two different research sites in North Dakota and Minnesota. In North Dakota we have sites at Williston, Langdon,

Grafton, Crystal, Hoople, Inkster, Grand Forks, Larimore, Absaraka, Prosper, Dawson, Pettibone, Oakes and Wyndmere. In Minnesota we have sites at Crookston, East Grand Forks, Osage, Park Rapids, Glyndon, Rice, Becker and Rosemount.

- Our research community planted research plots, fertilized, irrigated, sprayed and cared for these research plots this past spring and summer. The harvest was completed last fall and the tubers were stored at the USDA/ARS Research Lab in East Grand Forks, MN. Post harvest research has been conducted on thousands of tuber varieties through storage at various temperatures, time intervals and humidity levels. The tubers are then fried as French fries or chipped, if a chipping variety, to determine color, texture and taste characteristics.
- The highlight of 2009 was the release of AOND95249-1Russ as Dakota TrailBlazer, in December. It offers producers and processors sugar end, *Verticillium* wilt, pink rot, and late blight (field) resistance, in addition to outstanding French fry/frozen processing and table stock properties. Dakota TrailBlazer has very high specific gravity, long dormancy, and cold sweetening resistance, processing reliably from 42F storage. The most promising selections in our North Dakota program include red table stock selections, ND4659-5R and ND8555-8R. Dual-purpose russet selections, ND8229-3, AOND95292-3Russ, and ND8068-5Russ possess excellent appearance and processing qualities. ND7519-1 and ND8304-2 possess superior chip processing traits.
- The University of Minnesota potato breeding research is emphasizing the development, evaluation, and distribution of potato cultivars and germplasm with improved yield, quality, and disease resistance by developing new hybrid progenies and evaluating them in multiple dry land and irrigated locations. Post harvest storage and quality characterizations are performed from 40, 42, 45, and 48F throughout the 7 month storage season; focusing on sugar end and cold induced sweetening. The most advanced selections will be evaluated for Nitrogen use efficiency, N timing and spacing. Novel breeding methods and germplasm enhancement strategies are pursued to increase the efficiency of determining disease and pest resistance characterization early in the breeding effort. A focus is on foliar and tuber late blight, common scab, potato virus y (PVY) and potato leaf roll virus (PLRV) symptom expression, common scab, Colorado potato beetle (CPB), aphids, *Verticillium* wilt, and sugar end and cold induced sweetening.
Lines developed that require immediate attention to determine commercial marketability

Processing

AOMN 03178-2 – This is a blocky russet, white flesh FF processing clone. This clone rated high in Simplot fry tests conducted at the USDA lab.

MN 02419 – This long white flesh FF processing clone rated high in Simplot fry tests conducted at the USDA lab.

MN 18710 – This is a shallow eye russet skin white flesh selection having very attractive tubers for fresh market.

Red

ATMN 03503-3 – This red skin cream flesh selection has excellent color and yields similar to Red Norland.

COMN 03020-3 – This red skin white flesh selection has excellent color.

COMN 03021-1 – This red skin cream flesh selection has excellent red color medium in size.

COMN 03019-4 – This red skin cream flesh selection has excellent red color.

MN 02616 – This red skin yellow flesh selection has excellent red color and very attractive uniform flesh color.

MN 96013-1 – This red skin yellow flesh selection has excellent red color and very attractive flesh color.

MN 96072-4 – This red skin yellow flesh selection has excellent red color and uniform attractive yellow flesh.

Chipping

MN 99380-1 – This round white yellow flesh selection yields attractive golden colored chips from 45F into the storage season. It has 2x been entered into the Snack Food Association trials (SFA), most recently by Dr. Nick David and continues to demonstrate its low accumulation of reducing sugars.

MN 02696 – This round white selection with white flesh was determined to chip acceptable directly from 40F.

MN 02586 (W/ Lt Y flesh), MN 02588 (W/ W flesh), MN 02589 (W/ W flesh), and MN 02703 (W/W flesh) selections have been identified by J. Sowokinos and USDA as having acceptable chipping quality from 42-45F storage.

- All potato research assists us with solving production problems, creating cost saving avenues for growers as well as addressing environmental concerns.
- Dr. Nick David's research projects deal with varietal development, ground water and nitrogen, crop rotation and irrigation studies that will help growers become more environmentally conscious.
- Dr. Nick David administered a one day research reporting conference as well as two, one-half day educational seminars at the International Crop Expo this past February. It allows researchers to provide growers a summary of all projects performed for the past year and includes speakers from across the country to address potato related issues.
- Purchased a colorimeter for Dr. Nick David to use in the processing phase of his research. This will allow Dr. David to determine french fry, chipping and red potato color characteristics before, during and after the processing stage which will be an early indicator of whether we should continue selecting these clones for further study.
- Dr. David also organized Potato Field Day on August 20, 2009. Growers were able to visit our Larimore, ND site, our Inkster, ND site and Oberg Farms for plot tours and presentations by researchers from UMN, NDSU and USDA/ARS East Grand Forks, MN site. The day was very complete, starting at 7:30 AM and concluding at 9:00 PM.
- Please review attachments for documentation of several of these initiatives.

Project Developments and Problems:

We were unable to purchase a GPS backpack system for our potato plot work. We ordered one but found several deficiencies with software and signal and returned it. We do intend to purchase a GPS backpack or portable system in the future but will need to do more research to find one that works well and suits our needs, we will not be purchasing one with the grant funds at this time. We received notification from the USDA, Agricultural Marketing Service, that we are able to use the funds set aside for the GPS backpack to fund the two below listed activities as they are currently within the scope of our initial proposal.

We did have unanticipated research expenses which were projects that required our immediate attention and would like to request that the intended funding of \$9800 for the GPS backpack be used instead to help fund two additional priority research projects that became an instrumental part of our overall focus. These two projects were basically an expansion of the work we were already doing with the Specialty Crop Block Grant funding and did not change the scope of our proposal. Both projects tied specifically into our project approach of working through Dr. Nick David to improve cultural practices and accelerate new variety releases through increased and improved support to the breeding programs.

These two research studies have been integral in studying potato clones for Verticillium Wilt resistance as well as determining fry and chip characteristics of potatoes stored at various temperatures and intervals. By funding these two projects we were able to select potential varieties for resistance to Verticillium dahliae and cold sweetening resistance prior to taking the clones to the next level. Without these two studies we would not have been able to release Dakota Trailblazer, our new NDSU variety, which is resistant to Verticillium Wilt and can process at temperatures of 42 degrees. Both projects enhanced the work already being done for our 2008 Specialty Crop Block Grant. These two studies were instrumental in helping us achieve our goals of expanding the number of varieties released from our breeding program and assist in the screening for both markers of cold induced sweetening (CIS) resistance as well as assisting in the screening of breeding selections from breeding programs for market potential from storage at different temperatures and intervals.

The first project funded by the NPPGA through the University of Minnesota was the continuation of University of Minnesota research on cold sweetening and invertase screening at the USDA Potato Research Worksite in East Grand Forks, MN. Dr. Joe Sowokinos retired from the staff of the University of Minnesota and funding of \$32,215 was provided to hire a qualified laboratory person, Dr. Sonu Kashyup, on site to assist in the screening for both markers of cold induced sweetening (CIS) resistance as well as assisting in the screening of breeding selections from US breeding programs for market potential from storage at different temperatures and intervals. This work involved a joint effort linking personnel and resources of NDSU, the USDA/ARS Potato Research Laboratory in East Grand Forks, MN and the University of Minnesota.

A cold sweetening resistant (CSR) potato would retain its raw product quality due to (a) decreased microbial spoilage i.e., reduced need for the application of fungicides and bactericides, (b) reduced shrinkage, (c) retention of dry matter, and (d) delayed sprouting and physiological aging. These benefits would increase the environmental friendliness, the marketing window, sustainability, and profits of potatoes grown for processing markets. Categorizing advanced potato breeding clones for anti-sweetening potential aids the potato breeder in selecting the best possible genotypes for future matings as well as to aid in the identification of 'new upcoming' cultivars with superior storage and processing potential.

(1) Project A: Work Results and Future Plans:

Seventy-two and twenty-four distinct genotypes of AOND95292-3 and ND7882b-7, respectively, were generated as minitubers during the fall and winter of 2006. Field planting in 2007 was for the purpose of increasing tuber number. In the spring of 2008, each genotype was planted in ten hill plots at Wyndmere, ND. Tubers were harvested in mid-September and placed into 6°C storage. Random russeted intragenic (ITG) lines were analyzed for the presence of the *UgpA* gene and the anti-sweetening protein (UGPase-UGP5). Using native-activity gels, the anti-sweetening protein was evident and was highly expressed. A total of sixty lines were selected (based on yield performance) and planted in replicated field trials at Inkster, ND, in the spring of 2009. A replicated transient water stress trial was also conducted to determine any resistance to the development of sugar-ends. All tubers were harvested September 26 and samples were divided between North Dakota State University, Fargo, ND (i.e., evaluation for yield, French fry color and storage performance) and the USDA Potato Research Worksite in East Grand Forks, MN (evaluation for specific gravity, sugars, fry color, and AcInv activity, both at harvest and following three month storage at 6°C). Native activity gels were conducted on each genotype to ensure the presence of the anti-sweetening gene and its expressed protein. Several improved genotypes emerged that demonstrate superior yield, specific gravity, fry color, and storage performance compared to their untransformed controls. Future plans: A second-year study with replicated field trials at Inkster, ND in the spring of 2010. Following research data obtained in 2011, the top performing lines will be placed into tissue culture for the eradication of viruses. It is anticipated that minitubers will be available for grower field-testing in either the spring of 2012 or 2013.

(2) Project B: Work Results and Future Plans:

In 2004, sixty-four intragenic (ITG) genotypes of Dakota Pearl were transformed with the anti-sweetening gene from the chipping cultivar Snowden. Over the past five years, potatoes were selected for canopy cover, vigor, flowering, and maturity during the growing season and for yield, tuber number, size distribution, and chip color at harvest. Each year ITG lines were evaluated from storage for sugars, AcInv activity, and chip color following storage at 38° F, 40° F, and 42° F. Tubers from the 2009-2010 growing and storage season were evaluated for the parameters described above. Future plans: Dr. Kashyap will place the top five performers into tissue culture this fall for the eradication of viruses. It is anticipated that new genotypes of Dakota Pearl will be available for

grower field evaluation in 2011 that are superior in storage and chipping performance compared to the untransformed control.

(3) Project C: Work Results and Future Plans:

Past research has shown that potatoes with low AcInv accompanied with the A-II anti-sweetening isozymes of UGPase accumulated less reducing sugars in storage. Currently, 106 advanced breeding clones are being screened for anti-sweetening potential i.e., good color from storage along with low AcInv activity and the presence of the anti-sweetening protein, A-II. This screening can accelerate the selection of superior storage and processing potatoes as well as aid in the selection of parental material to be used in future matings. Dr. Kashyap assists Martin Glynn, USDA/ARS Worksite Coordinator in East Grand Forks, MN, in completing this project. Results of this study are presently being compiled and will be reported in the *Valley Potato Grower* and well as the *Amer. J. of Potato Research*.

Dr. Nick David helped oversee much of the work being done at the USDA Research Site. Dr. David also administered a Research Reporting Conference and seminars, which gave Dr. Sowokinos, Dr. Kashyap and Martin Glynn the ability to share this research with potato producers.

The second project funded by the NPPGA, was through Dr. Asunta Thompson and Dr. Neil Gudmestad and North Dakota State University. The project titled “An Accelerated Breeding Program for Verticillium Wilt Resistance in French Fry Processing Cultivars” will accelerate efforts to breed potato cultivars that are highly resistant to Verticillium wilt. Approximately 34 million pounds of the active ingredient metam sodium are applied by the potato industry each year for the control of Verticillium wilt at a cost of nearly \$170,000,000, not including the application. Metam sodium is currently under re-registration by the Environmental Protection Agency (EPA) and although its fate is unknown, it is clear that there will be restrictions placed on its use. Potato cultivars that resist Verticillium dahliae would be economically and environmentally a more favorable means to control early dying. We are funding this research at a level of \$42,840.

The NDSU potato breeding program currently makes 2,500 to 3,200 crosses each year, resulting in 350 to 730 new families. Approximately 80,000 to 100,000 seedlings representing these families are evaluated annually in the field. To date, approximately 22% of the crosses are directed at improving the quality of French fry processing in potato cultivars. Although advanced clones are often evaluated for their susceptibility to Verticillium wilt, currently there is no directed effort to breed potato cultivars possessing durable host-plant resistance to Verticillium wilt. Nonetheless, an advanced potato clone AOND95249-1Russ has recently been determined to have high levels of Verticillium wilt resistance. This advanced clone also has excellent French fry processing qualities.

This research established a Verticillium wilt resistance breeding program for potato and accelerated efforts to incorporate resistance to *V. dahliae* into genotypes that possess superior processing qualities. The goals accomplished through this accelerated potato breeding program for Verticillium wilt resistance in potato included the following:

- (1) Evaluate all current French fry processing cultivars and advanced clones for their response to *V. dahliae*. These evaluations will quantify the potato/pathogen response using previously established methods.
- (2) Make an additional 750 crosses with advanced potato clones and potato cultivars with known resistance to *Verticillium* wilt. These crosses will be made with clones with known French fry processing quality.
- (3) Identify new sources of resistance to *V. dahliae* using greenhouse and laboratory methods that quantify the pathogen in each potato clone.
- (4) Establish a field plot infested with *V. dahliae* that will be used annually to evaluate potato clones for resistance to *Verticillium* wilt under irrigated potato conditions prevalent in the Midwestern USA.
- (5) Quantify the potato/*V. dahliae* interaction by determining levels of the pathogen present in each potato clone. This will ensure that the reaction of the potato clone is one of resistance and not tolerance.
- (6) Develop a real-time PCR method that will quantify the potato/*V. dahliae* response and compare it to published laboratory methods. This will make future evaluations of potato clones and their response to *V. dahliae* more rapid, less labor intensive and less costly in the future.

Dr. Nick David helped oversee much of the work being done at NDSU and the USDA Research Site. Dr. David also administered a Research Reporting Conference and seminars, which gave Dr. Thompson and Dr. Gudmestad the ability to share this research with potato producers.

We hope you will see the value and the necessity of these two research studies to our overall Specialty Crop Block Grant project, which was to accelerate new variety releases through increased and improved support to the breeding programs and allow us to use the \$9800 to help fund a portion of these two projects.

We are also working in conjunction with the Agriculture Utilization Research Institute (AURI), the Economic Development Housing Authority (EDHA) of East Grand Forks, MN, the Mahnomen Baked Chips Company of Mahnomen, MN and potato washplants, processors and growers on the possibility of pursuing a potato flake processing facility in the region. Since the closure of the R.D. Offutt potato flake facility there has been a market created for flakes. We have four baked chip plants in the area that are currently contracting for product from out of state. There are large supplies of “cull” potatoes available that could be used to process flakes which would accomplish removing unmarketable potatoes at no cost to the producer and producing a flake product that could be sold and utilized. There is also discussion of using waste product from a flake facility to feed a digester to produce energy. We are also now proposing doing a feasibility study to look at a potato vodka manufacturing plant. The construction and operation of a facility would be very feasible, but we must look at the marketing side of the equation. The Agriculture Utilization Research Institute and the Dashiell Group, Inc. have agreed to help us prepare a feasibility study.

Results, Conclusions, and Lessons learned

Breeders now have several varieties which need to be increased to improve seed availability as well as develop cultural practices to improve their productive capabilities. Currently breeders have several varieties that would work in the process/frozen industry and need to be produced and processed to prove their characteristics work in today's competitive market. Varietal development is an extensive process requiring several years but the work must continue in order to benefit the industry in the future. Potato varieties are a large portion of the answer to disease, insects, weather, storage and the ability to process to the requirements of the industry.

Beneficiaries

Three hundred fifty potato growers from Minnesota and North Dakota have benefited from this Specialty Crop Block Grant. Fresh potato grower returns have stayed level with last year, which should be considered a success considering there was over-production across the United States and many of the other major potato producing areas sold potatoes at one-half of the previous year's value. Process potato growers have increased potato contracts by 30%, through improved negotiating, which will yield an additional \$23,000,000. Research carries a regional economic development value of over \$1,000,000. This value is created simply by funding the research. The value to farmers carries a value in millions of dollars annually as we solve production problems, create cost saving avenues for producers and introduce new varieties into the consumer market.

Long Term Outcome Measures from these projects

As a result of our research efforts, breeders have enough material to make 2 or 3 releases in each of the next 4- 5 years.

Our marketing program has been updated and improved thanks to this grant and a previous Specialty Crop Block Grant. We are now able to promote and advertise our product with new equipment and materials and will build on our program again next year.

Contracts were entered into with North Dakota State University and the University of Minnesota to continue support for a new extension agronomist for potatoes, resulting in a positive impact for the potato industry.

The projects conducted with the assistance of the United States Department of Agriculture Specialty Crop Program have helped the continued forward movement in varietal development, initiated positive direction in improving cultural practices and have improved market prices for both the fresh and process potato segments within our industry.

Use of Funds for Specialty Crop Block Grant Program

Area Extension Agronomist:	\$35,200
1. Extension Memorandum	
2. Research (Breeding, Nitrogen Management, Crop Rotation, Storage)	

3. Grower Education Programming
4. Equipment - CR-400 Colorimeter
5. Publication

Advertising/Marketing and Show Display: \$4,800

1. Advertising
2. Television Display for Promotional Videos
3. Brochures
4. Food Shows
5. Conferencing for Inventory and Pricing
6. Potato Chip Samples, Frozen Product, and Potato Dish Samples

Total Costs for Specialty Crop Block Grant \$40,000

Source of Funds

Minnesota Specialty Crop Grant	\$20,000
North Dakota Specialty Crop Grant	<u>\$20,000</u>
	\$40,000

Cost Associated with Proposal

Fresh marketing, promotion and advertising campaign	\$83,000
Extension Memorandum	\$12,500
Cold sweetening, invertase screening and post harvest research	\$32,215
Cultural production practices	\$30,000
Irrigated land rental	\$12,000
Irrigated research operational costs	\$36,000
Breeding program funding	\$85,000
Accelerated Breeding Program for Verticillium Wilt Resistance	\$42,840
Fertility, yield and quality timing research	\$21,000
Extension Agent Equipment	<u>\$10,000</u>
Total expense related to this grant	<u>\$364,555</u>

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Project B – Initiating Health Communications for Dry Beans

Final Report

Outline of the Issue/Need for Projects

To enable the Northarvest Bean Growers Association (NBGA) to develop a scalable, sustainable, and measurably effective program of electronic-based health communication targeting dietary professionals in their roles as “health influentials.” The goal of this program, broadly stated, is to increase awareness of the health benefits of dry beans among select groups of dietary professionals resulting in an increase in recommended levels of use of beans in healthy diets among consumers they reach.

Projects to be undertaken to address the Issue

Project 1: Development and launch of a new health related website for dry beans

Project 2: Establish editorial newsletter board

Project 3: Electronic newsletter to dietitians

Project 1: Development and launch of a new health related website for dry beans

Project Summary

The Northarvest Bean Growers Association has, over the preceding decade, advanced a number of initiatives to increase awareness of the dietary benefits of dry bean use. The level of investment and expertise required to sustain mass-market programs has proven problematic, and has contributed to a more focused and cost-effective strategy described here.

Project Approach

Northarvest had ongoing discussions with Dr. Bill Lesch, chairman of UND Marketing Department regarding the model, process, outcomes, and cost associated with web development, assembling and distribution of electronic newsletter. It must be noted from the outset that it takes a team of talented individuals to plan and implement a project with so many “legs,” since the talents and materials required are not within the span of control of any single individual.

Project Goals Achieved

Competitor website review and analysis was undertaken and concluded by;
RESEARCH AND PRODUCTION-UND

Dr. Mary Askim-Lovseth, Survey Research and Production
Ms. Rachel Lundbohm, Production Manager and Contractor Liaison
Ms. Corrine Iverson, Production and Traffic Coordinator
Mr. David Konerza, Research Design and Editorial Review
Mr. Kevin Williams, Research

Beneficiaries

To increase awareness of the health benefits of dry beans among select groups of dietary professionals resulting in an increase in recommended levels of use of beans in healthy diets among consumers. Additionally, beneficiaries (consumers) will be anyone that has a disease that is cardiovascular, obesity, colon cancer, gastric intestinal, immune system or diabetes.

Results, Conclusions and Lessons Learned

February 2010 UND launched the fully operational and trade marked Bean Institute web site. The web address for The Bean Institute is www.beaninstitute.com. Working with a team of professionals under the supervision of the UND Marketing Department chair instilled confidence in our approach to developing the health web site. UND also aided the trade marking of the name; Bean Institute. Following launch Northarvest needed to enhance and promote the site. Communiqué Inc of Jefferson City Missouri added a search function, overhauled and worked on technical issues with Farm to Fork, added registered dietician educational power point presentation titled Beans 101, added new section called “Latest Research” and promoted the site by email to some 36,000 registered dietitians. Monitoring the web activity showed we were beginning to get some traction by June and hits on the website have come from nearly a dozen countries around the world.

Project 2: Establish editorial newsletter board

Project Summary

UND to assemble editorial newsletter board for Northarvest to support development of an electronic newsletter to dietitians touting health benefits

Project Approach

Earlier Northarvest produced a comprehensive beans and health literature review and hosted a gathering of some 30 scientist to further tout health benefits and beans. This became our pool of candidates.

Project Goals Achieved

UND was able to pool, screen and obtain the services of four individuals to produced copy and design layout for a Dry Bean Health Newsletter

EDITORIAL BOARD

Ms. Amy Myrdal-Miller, Culinary Institute of America
Dr. Julianne Curran, Product Innovation Manger, Pulse Canada
Dr. Cliff Hall, Associate Professor, North Dakota State University

Dr. Andrea Hutchins, Associate Professor, Colorado State University

Beneficiaries

Credible message, target audience and ultimately the consumer.

Results, Conclusions, and Lessons Learned

With the final selection of the two practicing researchers and two practicing dietitians that demonstrate the ability to write, be published and demonstrate a strong willingness to participate to further tout the health benefits of beans is achieved with the above mentioned individuals. Some candidate showed an interest but these individuals demonstrated a commitment.

Project 3: Electronic newsletter to dietitians

Project Summary

The development and launch of an electronic newsletter to dietitians touting the health benefits of dry bean

Project Approach

Northarvest had knowledge of another commodity that successfully developed and distributed an electronic newsletter to the dietetic community. We followed their blueprint minimizing any delays and cost overrun.

Project Goals Achieved

Northarvest contracted with **Steve Veile, COMMUNIQUÉ, Inc., Jefferson City, MO** to begin work with our established editorial board to develop and launch an electronic newsletter to dietitians touting the health benefits of dry bean use. June 11 the first issue of Dry Bean Quarterly (DBQ) was distributed electronically and reviewed by 6,425 registered dietitians. DBQ is posted on www.beaninstitute.com.

Beneficiaries

Dietitians are delivered scientific evidence touting the health benefits of beans and in the position to educate the consumer. The consumer is in the position to make smart choices and increase demand for dry bean.

Results, Conclusions, and Lessons Learned

Communiqué consulted with editorial board about content, selected newsletter themes, contacted potential authors for articles, designed masthead, edited articles as they were submitted by authors, created email version of newsletter, created layout for print newsletter, received approval from editorial board to send email version. Communiqué publishes another health research newsletter (Soylink) and manages the soy web site. The experienced management of Communiqué helped Northarvest target the correct set of dietitians within the very diverse group of dietitians belonging to the American Dietetic Association.

Long-Term Outcome Measures

Northharvest will track (through its consultant Communiqué) the influence the health newsletter has on the dietetic community, track the number of dieticians that find the information useful and track the number of visitors to the Bean Institute web site.

Northharvest extends its deepest appreciation to the Commissioners and staff of the North Dakota and Minnesota Departments of Agriculture, and the United States Department of Agriculture for their efforts to advance this and related programs.

Specialty Crop Grant Project

July 12 2010

Income Received

Minnesota Department of Agriculture.....	\$ 20,000
North Dakota Department of Agriculture.....	\$ 20,000
Northharvest Bean Growers Association.....	\$ 25,000

Budget Expenditures

Commitments through June 30th were distributed as follows:

UND consulting, trade marking, and professional web services	\$35,953
Communiqué web and electronic news letter development.....	\$29,047

Contact

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Project C- Growing Sustainable Small Farms-Big River Farms

Final Report

Minnesota Food Association (MFA) Big River Farms Program. May 2009 – April 2010
Dated: June 25, 2010

Project Summary:

Minnesota Food Association was awarded a grant of \$24,900 from the Minnesota Department of Agriculture through the FY 2008 USDA Specialty Crop Block Grant Program for the Period of May 1, 2009 – April 30, 2010. Minnesota Food Association, a registered 501 C 3 nonprofit organization since 1983, operates its main program Big River Farms at the Wilder Forest in Washington County, MN. The program includes training, education and support in sustainable farming to immigrant farmers and operating a Community Supported Agriculture (CSA) and wholesale food distribution service as a means for demonstration and marketing practice.

Both the 2002 and 2007 Agriculture Census shows that immigrant communities are a predominant demographic group getting into farming as an occupation, yet they are hindered by a lack of accessible resources and other barriers as language, culture, new climate and new rules and regulations. MFA has been training new immigrant farmers since 1999 with the goal of building skills and knowledge to help new immigrant farmers establish their own farming enterprises. This is the only new immigrant farmer training program in MN that focuses on on-the-ground practical farmer training for new immigrants and one of few in the nation.

Project Approach:

The **purpose** of this program is to assist socially disadvantaged and limited resource farms in the Minnesota and the St. Croix River Valley in establishing, growing, and maintaining their specialty crop farm enterprises. The focus will be on organic and all-around sustainable methods. The main target group is immigrant farmers including Hmong, Latino, Karen, Cambodian, Kenyan, Burmese, and Somali. Many of these farms are led by women. In the future it may also include farmers from other East African countries and Bhutan.

The **specific objectives** for this project for the Specialty Crop Block Grant Program through the MN Dept of Agriculture include key components towards obtaining and operating their own viable independent farm enterprises.

1. **Provide technical assistance by training for USDA Organic Certification** to 10 socially disadvantaged farms; increasing their knowledge and skills of crop rotation, soil nutrition management for pest management and marketing opportunities.

Result: All farms selling through the Big River Farms Marketing program will be certified organic by MCIA. All farms in the program will be using sustainable growing practices.

2. **Provide farm business management training** to 10 socially disadvantaged farms including records management, risk management, marketing management and financial management through one to one meetings.

Result: All farms in the training program will have a draft business plan and have made significant progress towards a completed business plan, including beginning record-keeping books, filing crop reports, calculating cost of production, and filing Schedule F.

3. **Provide technical assistance towards accessing non-traditional markets** to 10 socially disadvantaged farms.

Result: Each farm will have established 2 or more regular market channels including but not limited to CSA, wholesale, farmers markets, restaurants, schools or institutions, and/or regular public / community events.

MFA identifies up to 10 “farms” to be enrolled in the full training program each year. MFA conducts 10 classroom workshops, 10 in-filed workshops, hundreds of hours of individual consultation to the farmers (about 40 hours per farm per year) and provides for other learning opportunities for farmers as well such as local conferences and workshops.

Training Sessions and Farmers Forums for Nov 2008 – April, 2010

Minnesota Food Association, Big River Farms Program

When	Topic	Facilitator	Comments
November 1 & 2, 2008	Hoop House Construction	Growing Power: Jay Salinas and Jordan	Big River Farms 9 farmers attended *Report attached
November 8, 2008	End-of-Season All Farmers Meeting	MFA, Glen Hill and staff	
January 10, 2009 1:30-4:30	Growing Vegetables in Minnesota Winters and follow up tour	Land Stewardship Project: Carol Ford and Chuck Waibel	Hamline University 6 farmers attended
January 16-17, 2009	Minnesota Organic Conference	U of Minnesota and MDA	St. Cloud 5 farmers attended
February 1	Farmer Forum, and Organic Farming – soil moisture, observations and monitoring, pest management	MFA- Glen Hill, Farm Manager, Aaron Blyth	Farmer Forum from 1 – 3 pm. Maplewood Public Library 12 farmers attended
February 8	Plot planning – crop rotation, pest management	MFA - Aaron Blyth	Maplewood Library 12 farmers attended
February 26-	Midwest Organic Farming	MOSES	LaCrosse, WI

28	Conference		2 staff and 2 farmers attended
March 8	Growing Solanacea– soil, pests, blight conditions – trellising, mulching, etc. and other families of vegetables.	MFA - Mel and Aaron	Farmer Forum 1-3 pm Maplewood Library 9 farmers attended
March 20-21	Fourth Immigrant Farming Conference- Marketing, Organics, USDA programs, etc.	MFA, USDA FSA, Assoc for Hmong Women	80 farmers attended for 2 days *Report attached
April 18	Greenhouse propagation	MFA - Mel and Jena	BRF greenhouses, 12 Farmers attended
May 1, 2009	Beginning of MN Dept of Ag Funding Period		
May 16	BRF Payment Systems Training	MFA - Joci	MFA office 9 farmers attended
May 17	Tomato planting, mulching, trellising	MFA – Jena and Mel	BRF fields – 9 farmers attended
May 24	Irrigation systems – pump operations, layflat, drip tape, etc	MFA - Aaron	BRF fields 9 farmers attended
May 31	GAP and food safety	MFA – Bjorn Gangeness and Jena	BRF fields – 9 farmers attended
June 20	Growing Solanacea– soil, pests, blight conditions – trellising, mulching, etc.	MFA - Mel and Aaron	BRF fields - 10 farmers attended
June 21	Pests and Disease Prevention and Intervention	MFA – Jena and Aaron	BRF fields - 12 farmers attended
June 27	Harvest Quality	MFA – Jena and Mel	BRF fields - 12 farmers attended
June 28	Post Harvest Handling	MFA – Jena, and Michele Schermann UMN	BRF fields - 9 farmers attended
July 3	Actual in-field Organic Certification Audit	MN Crop Improvement Association, MFA staff and farmers	BRF fields - 12 farmers attended
July 12	GAP refresher course, and Bell pepper harvest quality Training Session	MFA – Bjorn Gangeness and Jena. Rodrigo Cala – Cala Farms	BRF fields - 7 farmers attended
July 16	Actual in-field GAP audit	MN Dept of Ag, MFA staff and farmers	BRF fields - 7 farmers attended
July 19	Composting	MFA - Aaron	BRF fields - 9 farmers attended
September 13	Hoophouse production and season extension	MFA – Jena, Aaron, Mel	BRF fields and hoophouse - 9 farmers

			attended
September 15 – 17	5 th national Small Farm Conference, Springfield , IL	MFA Staff, Glen Hill	3 farmers attended with Glen
September 20	Soil testing procedures	MFA - Aaron	BRF fields - 9 farmers attended
September 27	Soils and cover cropping	MFA -Aaron	BRF fields - 10 farmers attended
October	Putting fields to sleep for winter	MFA - Aaron	BRF fields – done on an individual basis with each farmer
October 25	Farmers Forum, End-of-Year All Farmers Meeting	MFA – all staff	20 farmers attended
November 7 and 8	Hoophouse Construction Workshop	MFA – all staff, volunteers and farmers	BRF fields
November 12, 2009	Buyer/Grower Workshop, with LSP and River Market	MFA, LSP, River Market, and others	3 farmers
Nov 2009	Cabbage crop pest control	Wisconsin Farm	3 farmers
Jan 10, 2010	BRF Orientation and introduction	MFA staff	25 farmers
Jan 14, 2010	Organic Farming and intro to certification	MFA staff	10 farmers
Jan 24, 2010	CSA operations and marketing	MFA staff	10 farmers
Jan 31, 2010	Farm Business planning	MFA staff	9 farmers
Feb 7, 2010	Wholesale marketing	MFA staff	18 farmers
Feb 14, 2010	Seed starting at Home	MFA staff	14 farmers
Feb18, 2010	Crop planning and plot mapping	MFA Staff	13 farmers
Feb 19 - 2010	Immigrant Farming Conference in St Paul – numerous topics in 12 workshops	MFA staff, Planning Committee, many presenters	166 farmers; total 242 participants
Feb 25-27, 2010	MOSES National Organic Conference		5 MFA staff and 8 farmers in the BRF program
March 14, 2010	Marketing at Farmers Markets	MFA staff	12 farmers
March 21, 2010	Farm Business Planning II	LSP staff and MFA staff	19 farmers
March 28, 2010	Record Keeping	Rodrigo Cala (BRF graduate) and MCIA, FSA, and MFA staff	18 farmers
April 25, 2010	Orientation to operating on an Organic Certified vegetable Farm	MFA staff	15 farmers

MFA staff continue to work with all the farmers on an individual basis in developing their business plans, marketing strategies and direct markets. The majority of the Training Coordinator's time is spent in working with farmers, specifically on items as organic

certification applications, GAP certification applications, applications to USDA SARE Farmer grants, pest intervention and control, quality control and produce grading, packaging, and so on. While the number of farmers is relatively small, the relationship is close, intensive and supportive.

Five MFA Staff and 8 farmers in the BRF program participated in the MOSES National Organic Conference in La Crosse, WI from Feb 25 – 27, 2010. For all the farmers this was their first time to this conference and for most of them, this was their first-ever farmer conference. It was a huge success. MFA sponsored their travel and expenses to the conference. The MFA Executive Director and 3 farmers participated in the 5th National Small Farms Conference in Springfield, IL, from Sept 15 – 17, 2009. MFA, USDA FSA and the Association for Hmong Women conducted the 5th Annual Minority and Immigrant Farming Conference in St. Paul, MN, from Feb 19 – 20, 2010 with over 160 immigrant farmers and over 60 agency representatives participating.

Goals and Outcomes Achieved:

The list of activities is in the above section. MFA worked directly with 8 farms in 2009, about 30 farmers, and reached over 200 farmers in different regards in 2009; all are low-income and considered socially-disadvantaged by USDA criteria (people of color, low income, women). MFA had 10 farms signed up, but two farm principal operators lost their jobs and had to move away to find jobs before the season started. Each “farm” was 1/4 – 3 acres, produced 3 – 12 or more types of vegetables, and 2nd and 3rd year farmers sold to MFA’s Big River Farms CSA and/or wholesale distribution, together with their own other markets (farmers markets, restaurants, community events). MFA also provided support to about 60 “gardeners” annually, usually elderly who garden for physical and mental health reasons and to grow the food they like from their homeland.

In 2009, MFA reduced the CSA to 118 members in order to focus on quality and membership retention and relationship building. This year was the best CSA year for us ever. MFA also reduced the wholesale / retail marketing and focused on 4 larger wholesale accounts as H Brooks, Chipotle, Lunds, and Whole Foods, and a number of smaller retail accounts like Savories, Marine General Store, River Market Coop, Scandia Café, Butter Bakery, Concordia Language Village and other local outlets. The quality was excellent. However, acting as a produce broker still required a huge amount of staff time. We handed over the Marine General Store and Scandia Café market to Cala Farms directly. We will pursue more of this in 2010.

Result of Objective 1: All the 8 farms in the Big River Farms program were successfully USDA Certified Organic by MCI. All farms were able to use the USDA Organic Certified label in their marketing. There were no problems in the certification process, except that it took a huge amount of MFA staff time to work with farmers to complete all the paperwork and maintain the proper records. These are the only certified organic immigrant producers in MN, and BRF remains the only structured program that assists immigrant farmers in transitioning to organic and organic certification.

Result of Objective 2: All farms in the training program had a business plan, but the plans were of different degrees of thoroughness. All the farmers have their own files and recordkeeping books, and are keeping track of income and costs. However, no farmers filed 'crop reports' to FSA and no farmers participated in other USDA programs in 2009. We are still not sure how many farmers filed Schedule F forms; we are sure that 4 farms did file Schedule F.

Result of Objective 3: All the 8 farms had at least 2 regular market channels and most had more. Only one farm did not produce well because of their off-farm jobs. All the farms sold some produce to the BRF CSA, but most of the produce came from 4 farms. The farms experienced a variety of success. The smallest farm of ¼ acre sold \$3,000 in gross produce sales. The 2 largest farms, of 5 acres+, had gross sales of over \$50,000 and had production yields of over \$10,000/acre gross sales.

This integrated program has proven to provide significant boost to the farms' enterprise development and stabilizing the farm operations. In only 2 years, all of the farms have expanded their production and sales and diversified their knowledge, while three farms have been able to obtain their own land (one purchased; two leasing). Three farms have started their own CSA and others are exploring the possibility. Two farms have received their own direct intermediary markets from MFA and others have been able to find their own direct markets with training from MFA. Big River Farms is one of two farms in MN that supply green peppers to Chipotle Restaurants for the past 3 years. For the 2010 season, MFA has handed this \$13,000+ market over to Cala Farms, a BRF graduate, to carry forward directly. They will do their own Organic Certification and GAP Certification but MFA will continue to support them in these processes. MFA plans to continue selling to Chipotle to 2011 with new farmers and hopefully develop a new farm that can produce for Chipotle in the future. Chipotle and MFA consider this a great success story. MFA and the farmers continually developed many new smaller markets as the 2009 season went on and will continue in this direction in 2010.

Beneficiaries:

MFA worked directly with 8 farms in 2009, about 30 farmers, and reached over 200 farmers in different regards in 2009; all are low-income and considered socially-disadvantaged by USDA criteria (people of color, low income, women). The main target group is immigrant farmers including Hmong, Latino, Karen, Cambodian, Kenyan, Burmese, and Somali. Many of these farms are led by women. In the future it may also include farmers from other East African countries and Bhutan. The 8 farms in the program were from Kenyan, Hmong, Mexico, and Cambodia. The smallest farm of ¼ acre sold \$3,000 in gross produce sales. The 2 largest farms, of 5 acres+, had gross sales of over \$50,000 and had production yields of over \$10,000/acre gross sales. Three farms were able to directly connect to new wholesale markets. All the farms were Certified Organic; the only immigrant farmers in MN to be so. This is not only a huge accomplishment in terms of being a production farmer, it is also an accomplishment in terms of management and administration of their farm, record keeping, and is worn as a badge of honor and respect in their community.

Lessons Learned:

We learned the following:

- It takes more than 3 years of training and support for immigrant farmers to have the skills and resources to be able to establish their own viable farm enterprise.
- We need to develop “tracks” for the advancement of farmers through the training program, and have proceeded to do so.
- First year farmers should not have the ‘pressure’ to produce and sell to the BRF CSA or Wholesale markets, but should just practice producing and record keeping.
- 2nd and 3rd year farmers should begin selling to BRF CSA and Wholesale and those farmers who have the production and management skills can begin to be connected to their own wholesale markets with MFA’s support.
- Identifying the most appropriate people to enter the program is critical. MFA will continue to work on outreach and has developed criteria for farmers entering the program. Working with key strategic partner organizations will expedite this process.
- This reflects on the main unexpected outcome of this project in that each year we invest time and resources into the farmers in the beginning, only to have 1 -2 drop-out for various other reasons.
- MFA is way understaffed and under-resourced to do the work we set out to do. We do it well, but all staff are overworked and need to have better compensation that reflects their time and skills.

Plans:

In 2010, MFA will continue to broker produce for the farmers to a variety of wholesale and intermediary vendors, but MFA will work with the farmers and buyers to establish their own direct relationships and act more as a ‘market relationship broker’. This will allow them to develop their own long-term relationships and build direct markets for the new farmers.

In 2010, MFA will be working directly with 10 “farms”, representing about 30 – 35 farmers, in our comprehensive training program. They are from Kenya, Hmong, Cambodia and Karen. We will also continue with the food farmer program with about 50 Hmong elders. We will also reach an additional 20 – 40 farmers through our general training program because we have now opened up all the individual training sessions to the general public and have between 2 – 10 farmers from outside the program at each session. We will also reach another 160 – 200 immigrant farmers through the annual immigrant farming conference in February 2011.

MFA has recently developed a Conservation Plan for the EQIP Program of the NRCS that will run from 2010 – 2013. We will work with the farmers in the program in both understanding the value of this program and the implementation. We hope to be able to connect more farmers with NRCS in 2011, especially if NRCS continues with the cost-sharing program for hoophouses and season extension.

Annual Immigrant and Minority Farming Conference:

The Minnesota Food Association, the Association for the Advancement of Hmong Women in Minnesota, and the USDA-Farm Service Agency will jointly co-host the 6th Annual Minority and Immigrant Farming Conference in February 2011. The 2010 conference doubled in farmer participation and reached 166 immigrant farmers. There were a total of 242 participants, including MDA representatives. This conference has the goal of promoting the success and viability of small and beginning minority and immigrant farmers. Only sustainable and organic agriculture is promoted. We expect 160 – 200 farmers in 2011 from the communities of Hmong, Laotian, Cambodia, Karen (Burma), Bhutanese, Somali, Oromo, Latino, African-American and others to attend this event. This is the largest gathering of immigrant farmers in the Midwest. The conference cuts across all of the objectives listed above and continues to be a flagship event for MFA and immigrant farmers in the area. The agenda includes presentations and workshops by farmers, practitioners, and professionals from various agencies serving farmers on seeking land and negotiating leases, marketing, organic practices and certification, costs of production and record-keeping and seeking grants and loans, among other things. This conference is an ideal venue for farmers to begin the process of understanding and accessing USDA programs and getting to know the variety of other organizations and programs available to them towards increasing their civic engagement. The conference is also an excellent venue for identifying and recruiting farmers into the MFA Big River Farms Program. The conference is free for farmers and anyone from the immigrant community. Other agencies are charged \$15/day for attendance.

Financial Status:

Budget and Expenditures (May 2009 – April 2010)

Item	Description	Amount requested
Salaries	Program Director (10%); Farm manager (10%); Farmer Coordinator (15%)	13,900
Organic Certification Application	In excess of the cost share program	900
Travel and Mileage	5,000 miles annual @ .40/mile <u>and</u> Farm visits for group, MN Organic Conference (5 pers), National Organic Conference (5 pers)	4,800
Field work	Tractor work, fuel, organic inputs, compost/manure, etc. for training purposes	3,800
Materials	Labeling, farmer promotional materials, packaging for new farmers	1,500
Total		\$24,900

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**Project D- Enhancement of Minnesota Grown Program
Minnesota Grown Promotion Group, Inc.**

**Specialty Crop Block Grant FINAL Report
Minnesota Grown Promotion Group, Inc.
USDA FY'08 MDA Contract B26839
September 30, 2010**

Project Summary

Award Amount: \$48,666
Original Term: May 1, 2009 to November 30, 2010

The Minnesota Grown Promotion Group, Inc. (MGPG) is a private, non-profit 501(c) (6) organization whose membership includes representation from a wide array of specialty crop producer associations, including the MN Apple Growers Association, MN Fruit & Vegetable Growers Association, MN Grape Growers Association, MN Christmas Tree Association, MN Nursery & Landscape Association, Central MN Vegetable Growers Association and the St. Paul Growers Association. The MGPG works in partnership with the MDA's Minnesota Grown Program to promote Minnesota specialty crops.

The purpose of this project is to assist Minnesota specialty crop producers by enhancing Minnesota's buy local campaign for specialty crops – the Minnesota Grown Program. The Minnesota Grown Program has long been a model of public/private partnership and has been very successful at linking buyers and sellers as well as providing marketing tools to help identify and promote locally grown products.

Specific issues that the project needed to address included:

1. The Minnesota Grown Directory is the statewide publication linking consumers with specialty crop growers. The online Directory was in need of continued promotion in order to increase consumer traffic and resulting sales of specialty crops.

2. It is often assumed that joining a Community Supported Agriculture Farm will result in increased consumption of fruits and vegetables and therefore improve an individual's health; however this has never been quantified through a statistically significant study.

Project Approach

The Minnesota Grown Promotion Group works closely with the Minnesota Department of Agriculture's Minnesota Grown Program and several producer associations in order to maximize the efficiency and effectiveness of Specialty Crop Block Grant funds. As a result, SCBG funds were not used for salary and fringe benefits. The Minnesota Grown Promotion Group used the majority of these funds to continue previous SCBG funded marketing efforts creating targeted online campaigns that link interested potential consumers of fruits, vegetables, Christmas trees and other specialty crops to the online Minnesota Grown Directory. We also partnered with Health Partners Research Foundation to support their study of the health impacts of CSA Farm membership.

Goals and Outcomes Achieved

Activity #1: Continue to improve the online Minnesota Grown Directory and continue to increase traffic through pay-per-click advertising

- *The renovated Minnesotagrown.com website was launched on April 30, 2009. Feedback from consumers and farmers has been very positive. At the same time, we have been compiling a list of future site modifications that would make the site more user-friendly and effective. Those modifications are being addressed through USDA FY'09 Specialty Crop Block Grant Funds.*
- *The pay-per-click campaign includes Google Adwords and Yahoo. This campaign is a vital way to bring customers to the online Directory to make it easy for them to locate a local specialty crop producer. Of the two search engines, Google continues to deliver far more consumers to the website but the average cost per click is very similar. From May, 2009 through March 9, 2010, Google delivered more than 140,000 click-throughs to the website versus 15,174 for Yahoo. The average cost for each campaign was 37 cents per click with Google and 34 cents per click on Yahoo.*
 - *A few key examples by product:*
 - *Berries (including ads for strawberries, blueberries and raspberries)*
 - *18,371 clicks at an average cost of 27 cents per click*
 - *Apples*
 - *26,936 clicks with an average cost of 22 cents per click*
 - *Christmas trees*
 - *12,818 clicks with an average cost of 49 cents per click*
 - *Honey*
 - *3,232 clicks with an average cost of 37cents per click*

Activity #2: Collaborating with the HealthPartners Research Foundation in order to

document and quantify the health benefits of joining a Community Supported Agriculture farm.

- *HealthPartners Research Foundation conducted the research portion of this project while the Minnesota Grown Program provided support by assisting with implementation of the CSA drop sites at participating worksites. The MDA linked worksites with appropriately sized CSA farms and encouraged participating employees to complete the HealthPartners surveys.*
- *The number of study participants exceeded expectations. Eleven worksites served as CSA drop sites with a combined total of 395 study participants. The worksites included 5 State of Minnesota offices, 3 HealthPartners worksites and 3 Hennepin County offices.*
- *HealthPartners completed the surveys of participants and results have exceeded expectations. More than 70% of participants reported that the amount of produce they consumed increased as a result of their CSA membership. Equally as impressive is the fact that more than 85% of participants increased the variety of produce consumed.*
- *This research project will provide HealthPartners and other medical care providers with valuable data to help them determine how much time, energy and money to invest in the promotion of CSA membership. These decisions will play out nationally over the next 2-3 years.*
- *See [Appendix A](#) for the results of the survey*

Beneficiaries

The HealthPartners CSA research project will directly impact all CSA farms. In Minnesota, there are roughly 60 CSA farms that will be impacted by the study results. The promotion of the online Directory benefits direct marketers of specialty crops, including Christmas tree farms, apple orchards, berry farms, honey producers, and more. Approximately 740 producers were listed in the 2009 Minnesota Grown Directory.

Lessons Learned

This project has reinforced many of the reasons for using pay-per-click advertising. Not only is it a targeted form of advertising, its cost is based on actual results. For example, when the poor fall weather hurt attendance at orchards and pumpkin patches, our advertising cost also declined. With radio, TV or newspaper advertising our ad cost would have remained constant despite decreased effectiveness. The data generated by the pay-per-click advertising is also pointing out areas where we can improve the efficiency of our website. For example, Google Analytics software shows us that more than 2/3 of our web traffic is coming from pay-per-click advertising. This is an exceptionally high number and is causing us to explore ways we might be able to decrease our investment in pay-per-click advertising. Search engine optimization (SEO) is one potential way we could reduce the need for pay-per-click.

Contact Person

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Additional Information
www.minnesotagrown.com

Summary of Expenditures:

HealthPartners Research Foundation	\$ 3,000.00
Pay-per-click advertising	\$45,666.58
<i>TOTAL EXPENDITURES</i>	<i>\$48,666.58</i>

APPENDIX A

Local Food/Health Renewed Study Report from HealthPartners Research Foundation

Despite the well-documented health benefits of a diet rich in fruits and vegetables, far fewer than half of American adults and youth currently meet dietary recommendations. The discrepancy between recommended and reported dietary intake patterns indicates a strong need for the development of effective dietary improvement intervention strategies. There is an increasing evidence-base suggesting that interventions with experientially-focused components as opposed to primarily didactic interventions may be more promising for impacting dietary intake patterns. HealthPartners currently offers several health improvement programs focused on helping our adult members and patients with chronic health issues (obesity, diabetes, CAD, high blood pressure, high cholesterol) eat healthier diets; but we do not have an experiential healthy eating program that supports our members in improving their diet. In contrast, the 10K steps and Frequent Fitness programs meet this need for physical activity. Developing such a program focused on dietary intake would fill a programmatic gap for us, and would increase our ability to improve the health of our members and patients and their families.

A parallel to Frequent Fitness in the realm of dietary intake is a Community Supported Agriculture (CSA) membership. CSA memberships provide participants with fresh, locally grown produce on a weekly basis during the growing season for a membership fee. CSA's expose participants and their families to a variety of new foods and typically provide recipes and suggestions for preparing these foods. Offering a partial rebate or other incentive to HealthPartners (HP) members for purchasing a share in a CSA farm may encourage members to join such programs and, in turn, lead to increases in vegetable and fruit intake. A particularly attractive feature of a CSA membership is the **potential for household-wide in addition to individual impact**. This potential for improving the diet quality of children and adults, suggests that an initiative promoting CSA membership may be a novel approach to addressing childhood obesity. The evidence-base, however, for making decisions regarding incentives for CSA membership is lacking.

For the Local Food, Health Renewed study we built on pilot work we recently conducted to examine the feasibility and acceptability of promoting CSA memberships in the worksite setting and to examine the impact of CSA membership on dietary intake and modifiable health potential scores (MHPS) among adult HealthPartners, Hennepin County and State of Minnesota employees and family members. Measuring the MHPS, because it is correlated with health and productivity costs, enables us to estimate the economic value of CSA participation, which is a crucial factor in deciding how to implement such a program Plan-wide.

For this feasibility pilot we did the following:

1. Recruited HealthPartners, Hennepin County and State of Minnesota employees to participate by becoming a CSA member (with food drop off arranged at the specific worksites) for the 2009 growing season. If subjects did not work at a site with enough participants for a food drop off, they could join any CSA and still participate in the study.
2. Participants completed the HealthPartners Health Assessment (HA) prior to the start of the growing season (Spring 2009) and at the end of the growing season (Fall 2009) as

well as a survey to supplement the HA and provide information regarding the home environment and family eating patterns.

3. Change in dietary intake and modifiable health potential score derived from the HA will be examined among the CSA participants. A non-randomized comparison group will be comprised of employees matched on age, gender and worksite, who do not sign up for the CSA membership, but have completed HA's during the above time periods.
 - a. We hypothesize that CSA participants, relative to the matched employees, will report increases in fruit and vegetable consumption, total Kant score and modifiable health potential score at post-growing season follow-up.
4. Feasibility of offering CSA memberships at the worksite and acceptability and satisfaction with CSA membership will be assessed among the CSA participants.

The following report gives the pre and post survey information regarding the home environment and family eating patterns. The Health Assessment analysis will be provided at a later date.

Table 1. Baseline Characteristics of Local Food/Health Renewed Participants

Variable	% (n=)
Employer	
HealthPartners	46.2% (n=184)
Hennepin County	16.1% (n=64)
State of MN	37.6 (n=150)
Educational Status	
Grade 1-11	0% (n=0)
Grade 12 or GED	2.3% (n=9)
College 1-3 years	17.4% (n=69)
College graduate	42.1% (n=167)
Graduate Degree	38.3% (n=152)
Ever purchased CSA share?	
No	82.4% (n=327)
Yes	17.6% (n=70)
How many times have you purchased a CSA share?	
1 Time	60% (n=42)
2 Times	20% (n=14)
3 Times	8.6% (n=6)
4 Times	4.3% (n=3)
5+ Times	7.1% (n=5)
What type of CSA share did your purchase?	
A whole Full Share for my Household	14.6% (n=58)
A Full Share of which I am purchasing a 1/2 portion	56.7% (n=225)

A Full Share of which I am purchasing a 1/3 portion	10.1% (n=40)
A Full Share of which I am purchasing a 1/4 portion	4.8% (n=19)
A whole Half Share as offered by the CSA program	5.3% (n=21)
A Half Share which I am purchasing a 1/2 portion	5.8% (n=23)
Other (please specify):	2.8% (n=11)

Reason(s) for Joining CSA	
Fresh Food	99.5% (n=390)
Family Experience	29.3% (n=117)
Improve Health	56.4% (n=225)
Improve Eating Habits	72.7% (n=290)
Good Recipes	33.1% (n=132)
Support Small Farmers	74.9 (n=299)
Desire to Eat Produce in Season	73.7 (n=294)
Support Local Farmers	84.7% (n=338)
Organic Food	59.9% (n=239)
Educational Experience	20.3% (n=81)
General Concern for the Environment	44.4% (n=177)
Dislike Grocery Stores	6.0% (n=24)
Support Sustainable Agriculture	63.7% (n=254)

Reasons for Joining-Other

I thought it would provide an opportunity to try food items that I would not normally purchase.

Improved nutritional quality and flavor of fresh picked produce.

In doing the math, we spend less on a CSA membership than what we spent going to the farmer's market each week. With the farmers market, well sometimes we'd go, sometimes not--with the CSA, we pick up every week.

Jump start the practice of actually cooking at home - new child in the home is the reason for eating in and eating healthy.

Leading by example, using my hard-earned money to make noticeable positive changes.

Looking for a "forced" variety of old and new food that corresponds to all reasons stated above

More convenient for me to get fresh fruits and veggies into our diet. If the food is there and needs to be eaten, then hopefully, we'll eat them and get more into our diets. Also a good way to try new things.

The recipe book was a good incentive

Support research in this area--it's needed to measure/document the health benefits of eating healthy locally grown food

Taking a year off of having my own vegetable garden.

There is no downside to participation!

Try new vegetables

Usually have my own garden; decided it would be nice to have someone else more experienced do all that work and provide me with more variety than I would grow, probably more efficiently.

Wanted to expand our choices by being exposed to a new variety of fruits & vegetables with suggestions on how to prepare them. Hopefully, with new ways of preparing these will get our teens to eat healthier.

convenience and relative cost comparison to the Kowalski's of the world.
convenience of having organic produce delivered to my workplace

convenience of not having to go to the farmers market

convenience of pick up at work

fits my lifestyle and is great food

helps the friends I share it with

participate in interesting research project

Table 2. Local Food/Health Renewed Participant Follow-Up Survey

Where did you pick up your share?	
At my worksite	84.8% (n=312)
Retail establishment (Food co-op, restaurant, grocery store)	8.1% (n=30)
Community site (school, church, college)	2.4% (n=9)
Private home	3.3% (n=12)
Other (please specify):	1.4% (n=5)
Has the <i>amount</i> of produce you consumed changed as a result of your participation in the CSA?	
Decreased	0.3% (n=1)
Stayed the same	28.0% (n=103)
Increased	71.7% (n=264)

Has the <i>variety</i> of produce you consumed changed as a result of your participation in the CSA?	
Decreased	0.3% (n=1)
Stayed the same	13.0% (n=48)
Increased	86.7 (n=319)
What percentage of your household fruit and vegetable purchases, in terms of quantity, do you estimate that the CSA provided during the growing season?	
100%	3.3% (n=12)
75-99%	42.7% (n=157)
50-74%	34.2% (n=126)
25-49%	13.0% (n=48)
10-24%	4.9% (n=18)
< 10%	1.9% (n=7)

On average, about what percentage of the CSA share did you use each week? (If you split a share with another household, please tell us how much of your portion of the CSA share you used each week.)	
100%	8.4% (n=31)
75-99%	51.4% (n=189)
50-74%	28.5% (n=105)
25-49%	7.6% (n=28)
10-24%	2.7% (n=10)
< 10%	1.4% (n=5)
How many shares were you unable to collect (due to vacations, unable to get to pick-up site, etc.)?	
0	38.6% (n=142)
1-2	50.5% (n=186)
3-4	8.7% (n=32)
5-6	2.2% (n=8)
7+	0.0% (n=0)
Overall, were your expectations regarding the CSA experience met this past season?	
The CSA experience exceeded my expectations	30.2 % (n=11)
The CSA experience matched my expectations.	45.8% (n=168)
The CSA experience fell short of my expectations.	20.2% (n=74)
I had no expectations	3.8% (n=14)
Given what you received from the CSA this year, do you feel the price of your share was:	
Too high	27.5% (n=101)
About right	71.9% (n=264)
Too low	0.5% (n=2)
Do you plan on purchasing a share from this CSA farm again next year?	
Yes	33.0% (n=121)
No	32.4% (n=119)
Unsure	34.6% (n=127)
Do you plan on purchasing a share from a different CSA farm next year?	
Yes	4.9% (n=18)
No	61.0% (n=224)
Unsure	34.1% (n=125)

Please rate your level of satisfaction with each of the following aspects of the CSA experience.	
Quantity of produce Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	47.3% (n=174) 34.0% (n=125) 14.7% (n=54) 4.1% (n=15) 0.0% (n=0)
Quality of produce Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	60.6% (n=223) 33.4% (n=123) 5.4% (n=20) 0.5% (n=2) 0.0% (n=0)
Freshness of produce Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	69.8% (n=257) 25.5% (n=94) 4.1% (n=15) 0.5% (n=2) 0.0% (n=0)
Variety/mix of produce Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	32.9% (n=121) 45.9% (n=169) 19.0% (n=70) 2.2% (n=8) 0.0% (n=0)
Convenience of pick-up site Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	83.4% (n=307) 13.3% (n=13.3) 2.4% (n=9) 0.8% (n=3) 0.0% (n=0)
Convenience of distribution time/day Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	69.0% (n=254) 25.5% (n=94) 3.0% (n=11) 1.6% (n=6) 0.8% (n=3)
Window of time to pick up produce Very Satisfied Satisfied Unsatisfied Very Unsatisfied NA	69.3% (n=255) 24.5% (n=90) 4.6% (n=17) 0.5% (n=2) 1.1% (n=4)
Quality of newsletter	

Very Satisfied	55.4% (n=204)
Satisfied	31.8% (n=117)
Unsatisfied	7.1% (n=26)
Very Unsatisfied	0.8% (n=3)
NA	4.9% (n=18)
Social/community activities/aspect of farm	
Very Satisfied	29.6% (n=109)
Satisfied	28.8% (n=106)
Unsatisfied	4.1% (n=15)
Very Unsatisfied	1.4% (n=5)
NA	36.1% (n=133)

Communication with the farmer	
Very Satisfied	35.0% (n=129)
Satisfied	30.7% (n=113)
Unsatisfied	4.1% (n=15)
Very Unsatisfied	0.8% (n=3)
NA	29.3% (n=108)
Quality of farm website	
Very Satisfied	35.0% (n=129)
Satisfied	33.7% (n=124)
Unsatisfied	4.9% (n=18)
Very Unsatisfied	1.6% (n=6)
NA	24.7% (n=91)
Packaging of produce	
Very Satisfied	47.5% (n=175)
Satisfied	42.4% (n=156)
Unsatisfied	7.3% (n=27)
Very Unsatisfied	0.8% (n=3)
NA	1.9% (n=7)
Internal communication from your employer	
Very Satisfied	38.3% (n=141)
Satisfied	42.1% (n=155)
Unsatisfied	5.4% (n=20)
Very Unsatisfied	0.0% (n=0)
NA	14.1% (n=52)
From Asparagus to Zucchini (cookbook)	
Very Satisfied	52.4% (n=193)
Satisfied	38.3% (n=141)
Unsatisfied	4.6% (n=17)
Very Unsatisfied	1.6% (n=6)
NA	3.0% (n=11)
You indicated that you definitely won't or may not purchase a CSA share next year. Please indicate which of the following issues contributed to your decision:	
Too much produce (% yes)	13.9% (n=52)
Too little produce (% yes)	11.2% (n=42)
Too little variety (% yes)	15.5% (n=58)
Dissatisfaction with quality (% yes)	6.9% (n=26)
Household Issues (% yes)	5.9% (n=22)
Prefer farmer's market (% yes)	37.2% (n=139)
Prefer grocery store (% yes)	17.4% (n=65)
Inconvenient pick-up (% yes)	5.1% (n=19)
Not worth the cost (% yes)	20.0% (n=75)
Personal finance (% yes)	8.3% (n=31)
Grow own produce (% yes)	12.6% (n=47)

What did you like about your 2009 CSA membership?	
Educational experience (% yes)	56.0% (n=209)
Being connected to a farm (% yes)	56.9% (n=213)
Co-worker camaraderie (% yes)	35.6% (n=133)
Healthy eating (% yes)	87.2% (n=326)
Family experience (% yes)	34.2% (n=128)
Newsletter (% yes)	45.2% (n=169)
Supporting sustainable agriculture (% yes)	81.0% (n=303)
Fresh food (% yes)	89.0% (n=333)
Farm activities (% yes)	4.5% (n=17)
Good recipes (% yes)	45.4% (n=170)
Organic food (% yes)	64.4% (n=241)
Convenience (% yes)	52.7% (n=197)
Exposure to new foods (% yes)	73.3% (n=274)

“Liked” Additional comments

Although the pick-up location was super convenient, I missed the opportunity to browse and buy at the local farmer's markets. This CSA experience did, however, get us to try a few new things which we will continue to purchase in the future.

Even though I didn't make it to the farm event in the fall, I would have like to.

Featherstone Farm has a wonderful website with so much information!

For our situation at work, it might be more beneficial to organize a weekly outing to a farmer's market.

Found some vegetables that were so good, we will definitely look for plants or seeds for our own garden, I was disappointed we did not get tomatoes at all, but that is the chance you take.

Fresh carrots

I am particularly pleased that this is from an organic farm, which is very important to me.

I don't think I would have done this if the CSA wasn't offered at my work site - this was one of the biggest factors for me joining.

I don't feel I liked anything about being involved in the farm. I felt our farmer was rude and not organized. To say you can use your produce instead of purchasing it from the store you need to know in advance what they will be bringing you.

I hate shopping, so I loved just picking up my box, and having almost everything I needed to feed my family for the week.

I learned that I really liked Zucchini

I loved sharing our extra produce with my neighbors. I was a great community catalyst this summer.

I never would have tried, for example, kale without it being in my box AND I had recipes and handling information. It pushed me to explore flavors and ideas - didn't want to waste so I was motivated. It was a thrill to see each week what was in the box

I really enjoyed it! I tried so many things I would not have otherwise tried! I was happy with the experience

I really value local farms and make a concerted effort to shop & support local at all times. I will be going to farmers market next year more to continue in that effort.

I was able to increase my co-workers awareness to CSA as I brought in my produce before I took it home. Created interest and generated questions.

It actually created a negative experience with spouse. He did not get on board with helping use the produce. I wanted him to attempt to initiate using it as he primarily was making dinners. He thought I should have done a 3 way share instead of 2 way.

It felt like being involved in a rebellion against agribusiness and corporate farming. I also like the idea of paying a farmer directly, rather than having a for-profit food chain get a cut.

It opened our eyes to how much veggies we should be eating each week!

It was a great experience!

It was fun to get a surprise every week, although that has its down side as well.

It was great to be part of sustainable agriculture. The quality of the farm food is superior to any organics I have encounter so far--Have been a member of food coops for many years. This experience has introduced me to many vegetables I have not had before

It was like Christmas every Thursday. The kids would run out to meet me and see what was in the box! They are now quite good a vegetable identification and they like to eat them too.

Overall it was great and I have no regrets about trying out the CSA.

Recipe ideas obtained from other co-workers and from the internet.

Renewed my interest in cooking and trying new recipes-- it was fun!

Sharing this food with the families of our adult children. We'd make a "run" to their households and bring them fresh foods and get to see the grandchildren too!

Surprise and gift aspect.

The ability to pick up the produce at work – saved much time!

The food was absolutely wonderful! I have never eaten such flavorful and fresh produce in my life. I was really bowled over with the quality of the food.

The kids are new to our household and have been 'sheltered' with respect to new foods. We are going to keep after them, but it is disheartening to have them turn up their noses at new food and maybe even worse to find my dishes consumed with 50% ketchup.

We experienced new salad combinations and great stir fries. The cook book was an essential aid to the project.

appreciate efforts to produce foods with limited use of chemicals.

patronizing local business which keeps our local economy stronger.

surprised by the good flavor and shelf life of the produce

No CSA reason-Other comments

Aside from the other comments, I also felt that I wasn't able to adequately prepare for what was in the next weeks' share--meaning, I may have purchased a few onions during one week and then the share for the following week, I received 4 onions.

Busy household at this time

Didn't have time outside of my 40-hour job to properly prepare them.

Done this for 3 years and just for a change may buy at a local market instead (not sure). Would consider CSA again because I like having a variety of veges provided weekly - some that I would not have tried on my own.

Felt that the farm didn't deliver on the promises that were made at the initial meeting. The quantity was certainly missing. The quality of some of the produce was poor. The farm folks said that there would be a get together at the farm

For 24 dollars a week, I could have tailored my grocery list to fit my needs at the local co-op or farmers market. I would never have bought that much lettuce- I dont eat that many salads.

I am resigning my job at HP and won't have this option.

I am very happy to have had the experience. I found that with the CSA there was no need to stop at road side stands or go to the farmers' market, and I missed that. The quantity of food was a bit much for me as a single householder.

I did feel tied down having to pick it up and was very happy I was sharing a box. It was hard to share some items as there was only one. I was also looking fruit not just veggies.

I did have a garden this year and it was too much to process what we grew and the CSA. Plus I like going to the farmers market.

I didn't use most of the beets, celery root or rutabagas, so i feel bad about that. I loved the fact that i didn't have to think about vegetables on my shopping list for months! On the other hand, i did visit our local farmer's market less frequently

I do miss the weekly farmers market experience rarely had the need to go there this year. But the CSA convenience was great too. I purchased the large box this year and split it with someone else; that person is not interested in doing this next year

I felt I was wasting too much with the vegetables I/my family didn't care for. ie.. summer cucumbers, the different "greens"

I have a variable work schedule, depending on the needs of my clients so it is sometimes hard to be "tied down" to a pickup time, but I was able to work things out with my co-workers.

I let a lot of my produce go bad because I did not have time to figure out how to cook it. It would have been nice if you listed the produce a week ahead of time in the newsletter, so we could plan meals ahead of time.

I live 3 blocks from the farmer's market and I really only participated this year because others needed another 1/3 to sign up. I donated more food than I thought I would or gave it away.

I may have been interested in giving the fall share a try, or even the winter share since these had veggies I could make more use of, but this was not offered to be delivered at work and I couldn't pick up at another location.

I may order a half share from a different farm or start my own garden. I usually have a garden but need to move it at this time.

I moved last summer which left me without a fully functioning kitchen for about 6 weeks. So I did let a lot of things go bad. Things seemed to go bad fast. If there is a pick up site at work, that would be a plus for sure

I say too much and too little produce because it seemed that there would be way too much of some things, like the fennel and then too little of others, like the tomatillos or basil.

I usually grow my own tomatoes but didn't have much. I did not like the quality of the large tomatoes as I mentioned before.

I will get a CSA, but I keep hoping the Dodge Nature Center offers one again. It's very close to home. If they don't, I'll go with Ploughshare again. I thought the people running this farm seemed intelligent, which pleased me.

I will go to the farmers market more and purchase what I will use. I enjoyed getting veggies that I would not otherwise have purchased. It was good to try new things. Farmers market is convenient and will only purchase what I will use.

I will likely purchase a share next year but not sure who I will get it from. The prior question could be worded differently.

I would like more of the basic veggies and fruit

I would like to make my own decisions on which produce to buy and prepare. The CSA share had good quality produce but I felt forced to eat what was given even though it may not have been what I wanted to eat so as not to waste the food.

I'd rather pay a bit less and get a bit less.

I'll be away from this office during Summer of next year, so I wouldn't be able to pick up the share.

It also will depend on whether or not we can find someone to split a share 3 or 4 ways. The people I shared with this year didn't seem interested in doing this again next year.

More produce went to waste at our house than I would have preferred. It was fun trying new things, but when we got an item we didn't care for it was wasted. The share wasn't too expensive but the Farmers Market is fun, economical and we always get what we want

My family didn't like a lot of the greens – some were very bitter.

My husband and I have a garden and had produce. With the CSA, there was too much. A lot of produce went into our compost.

My wife likes going to the local farmers market and wants more quantity of the common vegetables. I may consider splitting a share if I can get ¼ share.

Not enough time in my schedule to prepare food that was provided.

Often times, we ended up throwing some of the produce out, as we were not able to eat it fast enough. And this year, we have a yard to start growing some of our own produce. But, we will still consider the CSA for sure.

On hot days, I had to make sure that my shares were in a cooler, which I need to prepare to bring to work that day. Also on days that the produce was available was stressful in that it sometimes took over an hour to prepare for storage - this at the end

Plan to check out the organic/local farmer's market in Mpls this next growing season

Recently discovered a medical need to avoid fructose, and lots of the veggies were high in fructose

Some stuff I received, I didn't use

Strange variety of foods were offered. It became a laughing matter for my dept. to guess what some of the stuff? was & then the joys of how to cook the exotic vegetables...to much work for me!

Summer is a really busy season. As much as I liked the CSA, I missed quite a few boxes due to my schedule. When I was able to pick up the box I felt much of the contents went to waste- again, due to my schedule and time away from home.

The CSA seemed more like a political statement about sustainable farming but my experience showed that it fell short of the current methods where farmers grow what their good at growing and then have it distributed through the conventional lines of distr

The half share is much more pricey, and my family of two cannot eat a whole share.

The pick up at Regions Hospital was VERY convenient. If they do not deliver there, I may have to look at other more convenient options.

The pick up site will be the next most important part of signing up for the CSA in addition to the quality and variety of product.

The price for organic produce from Featherstone was good compared to someplace like Whole Foods Market, especially considering it was delivered. However, we have decided to get conventional produce at a farmers market next year, plus grow some of our own

The quality and quantity were fantastic - quite even too. My schedule isn't as even (#of meals per week) so I think I will purchase from a farmers market and coop my produce to better match my quantity needs.

There was too much of some items (squash, greens) and not enough of others that I like a lot (green beans, cucumbers, beets, radishes, etc.) But the main reason I may not buy a CSA share is I missed going to the farmers markets and the interactions and conversations

Timing using the vegetables with their freshness was tough in my household. I enjoyed the experience, but instead will spend the money at local farmers markets as it fits better how I plan and cook my meals.

Too many greens that we didn't eat. We stopped buying veggies that we like from farmers market because we had so much other produce (lots of which we didn't eat, but composted).

Too many social factors made participation suboptimal for my situation.

Too much odd stuff I couldn't/wouldn't use. Too much waste. And much of it didn't keep very long.

Too much of certain things

Too much of some items caused me to not purchase other items at the local Farmers Market, due to lack of refrigerator space or the need to use up what I had.

Too much of what I didn't want, not enough of what I did want.

Too much produce for 1 person in retirement

Too much stuff of what we don't eat (turnips, bokchoy, etc and not enough of what we do eat-carrots, broccoli, corn)

Variety was not equal to what others were getting.

Too many greens - appeared to be filler for box.

We drove 20 mi round trip weekly for the CSA.

Locally we have Farmers Markets on Tues, Thurs and Sat. We bike to those markets. We usually spend around \$15-20 each wk. We do not always purchase organic...which I did appreciate the CSA organic quality

We tend to meet with family and friends, going out more on the weekends, so getting produce on Thursday meant scrambling the following week to use it prior to it getting old.

We were able to participate because of a tax refund. With a son in college, it is tough to lay out the cash upfront.

While we enjoyed getting our share every other week, we seldom were able to use all of it. We enjoyed trying new produce, and will likely be more open to trying new things again, but would prefer to choose our produce directly from a farmers market

Will probably go to Farmers Market and pick out what I want. I did learn a lot about different types of produce that I have not tried.

With young children that are involved in sports and other activities, I just didn't have the time to cook. Much of the produce provided did not lend itself to salads or other quick non-cooked meals. There was more kale and swiss chard than I could handle

Would like to see what will be offered in terms of items before choosing this or another farm next year, but will still be purchasing a CSA share from one of the available farms.

couldn't choose amount of produce- didn't know from week to week what would be included- made grocery shopping more difficult don't want to waste the food.

My family needs to be more planful for it to be really valuable.

felt stressed about using produce (only some weeks) and was almost relieved when we got to the end. Storage was sometimes an issue also- not enough room in our small fridge!

hard to find time to cook immediately upon receipt of CSA share -- with a busy family, lettuce rots quickly

if i'm still living on my own, it's too much food to justify for one person. and the chica share's too expensive then.

interested in a closer CSA farm

just want to clarify that I had doubts about the quantity for the price. need more info on what is reasonable to expect.

missed seeing the farmers I bought produce from at the farm market and my neighbor who has a farm store...I don't think I could by any more local that 1 block away!

not enough traditional veggies such as carrots, cauliflower, broccoli, and alot of others such as rutabagas.

produce that I did not know how to cook, kids would not eat a lot of it, it went to waste

produce variety didn't always work for us.

some of the items seemed harvested too soon since they were quite small.

sometimes felt variety and enough for a meal would have been more useful, or easy to use; I always buy greens to supplement the CSA

time spent washing vegetables, it did motivate me to get to local farmers market to pick my own vegetables that I like. CSA provided too much variety and things I didn't really like but still ate

.
who may be available to split a share

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