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Specialty Crop Block Grant  
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Annual Report

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## FINAL REPORT

### Project Title: Development of Biodegradable Sod Netting and Turf Roll Wrapping from Keratin

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#### PROJECT SUMMARY

The focus of the grant application was to develop and field trial biodegradable sod production netting and roll wrap for Maryland's sod production industry. The matrix for the plastic "bioresins" included keratin protein from chicken and turkey feathers, an agricultural by- product produced by Maryland's broiler and turkey industry. This activity is built upon and an enhancement of current biodegradable resins research being conducted by the Horticultural Research Institute, Inc. and the USDA Agricultural Research Service – Beltsville under a Cooperative Research and Development Agreement. The current focus of the joint HRI/ARS research effort was to develop and market biodegradable plastic resin formulations for the nursery, greenhouse and landscaping industry.

Development and field testing of biodegradable netting requires different keratin resin formulations and production methods than those used for injection and blow molding of nursery containers. The overall objective is to develop technologies to support Maryland sod farmers' commitment to producing sod in an environmentally responsible manner and to support innovative ideas which embrace this concept while increasing efficiency and enhancing the sustainability of the industry.

Data from the 2005 Turfgrass Industry Survey, produced by the 2005 USDA NASS Maryland Field Office, indicated that over 40 Maryland sod farmers produced an estimated 18 million square yards of turf on 8,000 acres. This crop production generated over \$28 million in farm gate receipts for the State. Private industry estimates indicate that from 2003 through 2009 average annual sales for turf netting in Maryland was \$187,213. On a national scale, it is estimated that annual average sales are over \$10,000,000.

For the customer of the sod producer, the ability to bury the sod roll wrap on site for natural decomposition in the soil or sending the netting to a composting facility will enhance the "green" footprint of the landscape site. For the sod producer in the production system and the end consumer on the landscape site, the ability of the biodegradable engineered sod netting to decompose will address concerns about the long term presence of a petroleum based material in the soil and the accompanying potential personal injury hazards posed by the presence of the netting.

#### PROJECT APPROACH

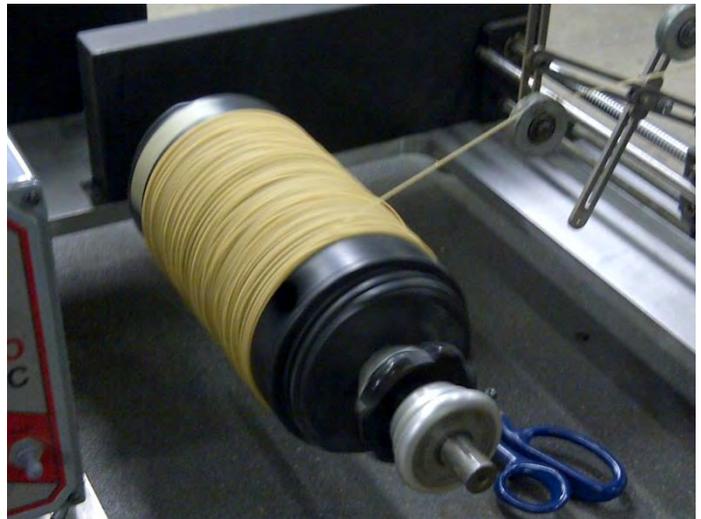
##### *Keratin Resin Formulations and Pellet Extrusion*

Working with Barr-Net and the Tenax Corporation, HRI's research associate Dr. Masud Huda selected and prepared four keratin/polyolefin resin formulations for the initial extrusion trial. The initial formulations consisted of 5/95, 10/90, 20/80 and 30/70 percent keratin/polyolefin. These formulations were selected for testing based upon HRI's previous experience and extrusion trials with other product materials. Because of the nature of the extrusion process and the possible final mesh product it was

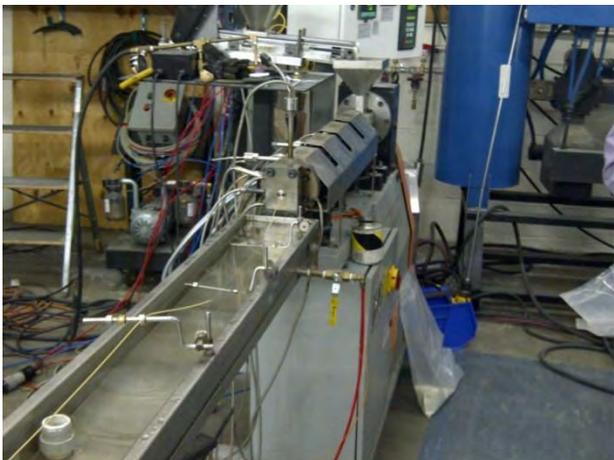
determined that the keratin portion of the formulations needed to be in the powdered form rather than a shredded feather form. As a result, a time consuming process was required in order to grind enough keratin powder for the first test run.

After consultation with Doug Barberry of Barr-Net it was agreed that before full scale extrusion trials were conducted at the Tenax manufacturing facility in Alabama, resulting in the need for at least 1,000 pounds of a powdered keratin/polypropylene resin that an initial “proof of concept” trial needed to be run to confirm that the formulas in question could be extruded into strands and films. USDA ARS Beltsville did not have the extrusion equipment in their lab to do the extrusion trial needed for the “proof of concept.” HRI’s industry consultant then identified a commercial extrusion company, Randcastle Extrusion Systems, Inc. with research and development facilities in northern New Jersey. An initial visit by researchers Dr. Huda and Dr. Schmidt and Marc Teffeau, Director of Research for HRI was conducted in September 2011 to meet with the company owner, review the possible extrusion protocols and examine the extrusion equipment that would be used in the trials. It was determined that the trial could be conducted at the company and the resin extrusion run was scheduled and completed on October 18, 2011 with Randcastle Extrusion Systems, Inc.

During the resin development phase of the project, we tested our resin formulations on a small extruder at Randcastle Plastics in New Jersey. We were able to get a resin extrusion stream with a blend of 30% Keratin and 70% Polypropylene as shown in the photos below.



The top two photos show that the single stream extrusion is strong enough to be spooled in a continuous stream without breaking.



This photo shows the Keratin streaming out of the hot barrel of the extruder and being cooled in water to add strength.

Based upon the initial success run with the 30% keratin/70% polypropylene, minor modifications were made in the formulations in preparation for a commercial resin run. Using the formulation and processing techniques/temperatures developed at Randcastle Systems a resin run was conducted at Adell Plastics. The photos below show the final preparation and blending at Adel Plastics in Baltimore of our 2% Keration and 98% Polypropolene which was 1,000 pounds of Polypropolene provide by Tenax and 20 pounds of our Keratin powder.

We felt that this blend would give us our best chance for success at the Tenax plant in Evergreen, Alabama during the extrusion and orientation process to form the net. The photos below show the resin pellets flowing from the extruder to the storage box. The photo on the right is of the 70 mm extruder blending the Keratin powder with the Polypropolene pellets through a heat and pressure process to manufacture the resin pellets.



***Commercial manufacture of the keratin mesh and field trials.***

Subsequently, 1000 lbs of the 2% blend of Keratin and a 98% polypropylene resin was then shipped to the Tenax plant in Alabama for the mesh extrusion trials. At the plant the keratin resin was mixed with additional polypropylene to create a 1% mesh mix. Approximately 500 lbs of the keratin mesh was processed generating over 28,000 linear feet of mesh with a 1% blend of Keratin and a 99%

polypropylene. Note the finished product in the photos below from the extrusion and orienting process. Please note the structure of the net in the left photo and the right photo gives you an idea of the size of the completed roll. The addition of the keratin resulted in a slightly brown/gold tint to the mesh which was considered desirable by the sod producers.



Field trials of the mesh, arranged with Barr-Net customers were conducted in Maryland and Florida. Florida sod is the heaviest sod harvested with the weakest root system in the country requiring very strong net during harvest.

We knew that if we are successful here, our net would be successful wrapping sod any where in the country. The first photo on page 6 shows the Keratin being installed on the harvester. The photo just to the right depicts the roll of sod being wrapped with our Keratin net during the harvesting process and the photo just below the first two testifies that the net is strong enough to contain a 3,000 pound roll of Florida sod.





Testing in Maryland on a different style harvester. The first photo above shows the roll of Keratin net being installed on the harvester. The net is laced up through the center of the two conveyer mats and is positioned to wrap the sod as it comes up the conveyer belts as shown in the first two photos on page 8. The 2,000 pound roll is completed and dumped on to the ground, note that the roll is contained by the net wrap proving that the Keratin net is strong enough to do the job.



The remaining resin from the first Tenax test in Alabama was sent back to Baltimore to be dried and sealed into 50 pound bags by Adel Plastics in an attempt to remove most of the moisture. It was then shipped back to Tenax in Evergreen, Alabama to be extruded and oriented at full strength 2% Keratin and 98% Polypropylene. The second test run was not successful because of moisture issues with the keratin resin. As is typical with a number of both petroleum based resins such as Nylon, bioresin materials which contain keratin are hydrophilic and will absorb relative humidity. A modification to the current Tenax mesh extrusion equipment to remove any moisture pre-extrusion as well as constant redrying process at the plant before the keratin resin is fed into the extruder will help to reduce the moisture issue.

We are currently undergoing keratin/polypropylene biodegradation trials. HRI entered into a CRADA (Cooperative Research and Development Agreement) with USDA ARS at Beltsville to conduct biodegradation trials of the selected sod mesh test resins and other formulations using injection molded samples provided by Dr. Huda. We are awaiting the final screening and evaluation trial results from Dr. Patricia Millner, ARS research microbiologist in the USDA-ARS Environmental Microbial and Food Safety Laboratory at Beltsville, Maryland. In support of the biodegradation studies HRI was able to

secure an additional \$30,000 in USDA ARS Floriculture and Nursery Research Initiative funding to support this effort.

***Project Partners:***

A number of key project partners participated in this research effort. The Principal Investigator for the project, **Barr – Net, Inc.**, is a for-profit Chapter S Maryland Corporation, which manufactures and distributes the C-175/20XLSR field net installer for the sod industry. Barr-Net, Inc. provided overall supervision of the project, financial management, technical expertise regarding use and application of the biodegradable netting and wrapping and application equipment. In addition, they provided and coordinated the field trials of the netting with cooperating Maryland sod producers.

The **Horticultural Research Institute, Inc.**, (HRI) Washington, D.C. is the national non-profit research and development corporation for the nursery and landscaping industry related to the American Nursery and Landscape Association. HRI, through its CRADA (Cooperative Research and Development Agreement) relationship with the USDA Agricultural Research Service at Beltsville, MD, through the efforts of Dr. Masud Huda, HRI Research Associate, provided the keratin formulation development that was used in the mesh manufacturing process and the technical expertise in the test run for keratin based resin formulations for the biodegradable sod netting and the turf harvesting netting. HRI also provided the raw feather stock and coordinated the production of the extrusion and pelletizing of the test resins with Adell Plastics, a plastics toll compounding company in Baltimore, MD. HRI, Inc. contacts:

**Tenax Corporation** is a worldwide company with U.S. headquarters based in Baltimore, MD, and manufacturing facilities in Baltimore, MD, Evergreen, AL, and Modesto, CA. As part of its product line Tenax Corporation manufactures and distributes a variety of netting products for the agriculture industry including vegetable growth/crop support, turf harvest & field netting, hay bale wrap and crop protection/bird control netting. Tenax provided the manufacturing facility and technical assistance to produce the biodegradable field netting and sod wrapping for the field trials in Maryland.

**USDA Agricultural Research Service – Beltsville Agricultural Research Center (BARC)** Dr. Walter Schmidt, ARS Scientist in the Environmental Management and Byproducts Utilization Laboratory (EMBUL) as part of the CRADA with HRI, Inc. provided technical expertise in feather processing and laboratory test equipment to evaluate biodegradable keratin resin formulations for meeting technical requirements and also biodegradability as per the ASTM 6400 biodegradable plastics protocols, including both laboratory and field – static composting and windrow composting. In addition, Dr. Pat Millner, USDA ARS microbiologist at BARC conducted the biodegradation tests for the mesh formulations. – Tests.

**Adell Plastics, Inc.** is a Baltimore area based plastics resins toll compounding company which manufactured the keratin resins used in the sod mesh/wrap manufacturing by Tenax. In addition, Randcastle Systems in northern New Jersey provided the initial extrusion trials with the keratin/polypropylene formulations on a single screw extruder. Based upon that resin run the formulation was modified for a production run by Adell Plastics.

## **GOALS AND OUTCOMES ACHIEVED**

The initial goal of developing and field trialing prototype biodegradable sod production netting and roll wrap for Maryland's sod production industry was completed by the project. A base keratin/polypropylene plastic resin formulation with additives was created. This formulation was able to be both commercially extruded into pellets and successfully used in the manufacturing of a mesh product. In addition, raw feather processing techniques to produce the keratin powder needed in the resin formulation were improved.

We discovered that we did not have the technology and equipment available to do a trial with 100% keratin but we did discover that keratin can be blended with polypropylene (PP) with positive results. The result produced a stronger polypropylene product that is presumed to be a more degradable net. We know that the keratin is a biodegradable material and we expect that it will break down due to microbial action and, in theory, over time would break the net into small pieces. We may have partially achieved our goal of degradability by using the keratin as a biodegradable additive to the PP resin. However, after 6 weeks of degradation study by Dr. Patricia Millner of the USDA/ARS we have not noticed any measurable degradation. The study will continue to move forward.

We were unable to produce enough keratin/polypropylene to test on 5 Maryland sod farms so we have our application and degradation trial on one Maryland Farm. We did have enough material to trial the harvesting and installation of the sod on 3 farms. We are doing our degradation study on one of those farms. The net has been placed beneath the sod roll against the soil. The degradation study to date has not shown any reduction in strength of the net, mirroring the USDA/ARS degradation study results.

We discovered that the keratin is very hydrophilic and will absorb relative humidity even when blended with PP at the rate of 2% keratin and 98% polypropylene. We were able to extrude and orient our resin only when it was again blended with 100% dry virgin PP at the injection point of the resin into the extruder. This method gave us our final net blend of 1% keratin and 99% polypropylene. In order to increase the keratin percentages in the mix or even to use 100% keratin resin the manufacturer would have to install a dryer. The keratin resin would have to be dried at the extruder and integrated into the extrusion process. Currently, for the production of our sod mesh, that drying technology is not in place and it would be a costly retooling project for the manufacturer. Commercial interest has been expressed regarding further development of the keratin based sod mesh. Discussions are underway with interested possible commercialization partners to take the next step in further product development and trialing of the keratin mesh product.

## **BENEFICIARIES**

Maryland sod producers were able to participate in the initial field trials of the netting and provide their opinions and review of product performance. They are the largest benefactor of our keratin project. Even though we were unable to produce a 100% biodegradable net they are very interested in our progress with a degradable net product that is produced with the biodegradable additive, keratin. It is a great financial advantage for them to have the ability of leaving the net under the sod in the soil after job placement and installation. Currently they have to retrieve the net and have it disposed of commercially. The Maryland sod growers are continually looking for products that are environmentally friendly and cost efficient. We have received positive feedback on our sod mesh from the Maryland producers who participated in the netting tests as to strength and usability.

All of the project partners saw benefits from participating in this research project. For Barr-Net, Inc. a prototype degradable sod mesh containing an agricultural co-product from the poultry industry was manufactured and trialed. HRI was able to enhance its keratin/polypropylene formulations and developed additional data which will help in the further refinement of keratin based plastic materials. The Tenax Corporation was able to be the first company to participate and evaluate a potential new mesh product which will help them to address ongoing market demands for a “greener” sod mesh product.

USDA ARS was able to participate and benefits in the next step of a possible commercialization effort of technology originally developed by their researchers at Beltsville. In the resin manufacturing process both Adell Plastics and Randcastle became familiar with the processing requirements for keratin based bioresins with both twin screw and single screw extruder configurations.

## **LESSONS LEARNED**

The manufacturing of a 1% keratin sod mesh resulted in a material where a biological degradation process can start to occur in the PP plastic resin. Because of the complex manufacturing process for the mesh used by the Tenax Corporation this mesh configuration is the most technically challenging of all the Tenax mesh products manufactured. Additional research and development will need to occur so as to be able to increase the percentage of keratin in the resin formulation. Possible modifications of the current mesh extrusion equipment will have to occur to deal with the moisture issue in the keratin based resins.

A possible research direction would be to utilize one of the new plant based bio-resins soon to be introduced into the marketplace from Dow Chemical, BASF or Braskem as a replacement for the traditional petroleum based polypropylene in order to enhance the biodegradable characteristics of the mesh products.

The next step in a possible commercialization of the keratin based sod mesh products will need to involve a commercial company interested in investing in the next steps of the research and development process for the product.

## **CONTACT PERSON**

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## FINAL REPORT

### **Project Title: Promoting Specialty Crops in Maryland: Funding A Project to Increase Sales of Fruits and Vegetables to Federal Nutrition Benefit Clients at Maryland Farmers Markets**

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#### **PROJECT SUMMARY**

This project aimed to increase Maryland specialty crop sales through increased redemption of the WIC Fruit and Vegetable Checks (FVC) at farmers markets statewide. The WIC FVC, introduced in October 2009 and approved for redemption at Maryland farmers markets beginning in May 2010, can be used to purchase fresh fruits and vegetables from approved vendors at either grocery stores or farmers markets. In Maryland, the WIC FVC program has a cash value of approximately \$11.1 mill annually. However, in 2010, only .01% of total FVCs redeemed in the state were used at farmers markets. This untapped pool of funding reflects a missed revenue opportunity for Maryland specialty crop growers, which if captured, would have the dual impact of increasing fresh, local, healthy produce consumption amongst low-income Marylanders.

#### **PROJECT APPROACH**

The primary activity during this grant period was to increase WIC FVC redemption at Maryland farmers markets through a statewide network that would provide: a bilingual outreach and marketing campaign, training and technical assistance for Maryland farmers market managers, and education and support for specialty crop producers selling at Maryland farmers markets. When Crossroads Community Food Network (formerly Crossroads Farmers Market) began program activities in November 2010, we aimed to increase specialty crop sales to low-income populations in eight Maryland communities through a targeted outreach and marketing campaign promoting WIC FVC use at farmers markets. In our original grant proposal, we stated that program activities would promote the competitiveness of Maryland specialty crops sold at Crossroads and seven other participating Maryland farmers markets.

At the time of this report, we have signed partnership agreements from 30 Maryland farmers markets and 7 community organizations and state agencies partnering in “Eat Fresh Maryland.” Eat Fresh Maryland is the now-formalized public-private collaborative committed to increasing local specialty crop consumption through federal nutrition benefits redemption at farmers markets. Founded with SCBG funding, this statewide network is the first of its kind in the country, and is already looked to as a nationwide model.

Eat Fresh Maryland partners, defined as relevant entities who have signed partnership agreements, include: farmers markets in Baltimore City, Baltimore County, Montgomery County, Prince George’s County, Charles County, Allegany County, and Frederick County; Maryland Department of Health and Mental Hygiene; Maryland Department of Agriculture; University of Maryland Extension, University of Maryland School of Public Health; Maryland Hunger Solutions; Southern Maryland Agricultural Development Commission; and Future Harvest-CASA.

Eat Fresh Maryland network activities during the grant period (through January 2012) included:

- Introductory conference call for project partners in November 2010;

- In-person partners workshop in January 2011, which included 15 representatives from 10 partnering farmers markets and organizations;
- In-person workshop in for 20 partners in April 2011;
- Development and distribution of bilingual marketing materials (details included below);
- Farmers Market Nutrition Program (FMNP) and WIC Fruit and Vegetable Check (FVC) training for Maryland farmers hosted at Crossroads Farmers Market in June 2011, in partnership with Future Harvest-CASA, with 15 participants;
- Mid-season conference call with 8 network partners in July 2011;
- Site visits to five partner farmers markets;
- Weekly WIC FVC sales data reports from 12 partner farmers markets (additional details below);
- Webinar presenting on successes and lessons learned during the pilot season of Eat Fresh MD in January 2012, with over 110 nationwide registrants; and,
- On-going technical assistance to network partners.

The goals and accomplishments of these network activities were twofold: to provide technical assistance and training to Maryland farmers market managers on federal nutrition benefits and specialty crops, and to develop an outreach and marketing campaign to federal nutrition benefits clients, promoting use of federal nutrition assistance dollars to purchase Maryland specialty crops. Both of these aims were successfully met.

The primary project partners were Future Harvest-CASA, Maryland WIC, Maryland Department of Agriculture, and Maryland Hunger Solutions. In addition to participating in network activities, including workshops, meetings, and conference calls, each of the primary partners helped us access their constituents that we identified as target audiences for this initiative. Specifically, Future Harvest-CASA supported farmer outreach through Field Days and promotion to their network; Maryland WIC provided content area expertise in developing our outreach and marketing materials and promoted the initiative to local WIC directors; MDA has provided invaluable support in engaging Maryland farmers market managers, content area expertise, and cross-promotion of network resources; and Maryland Hunger Solutions has assumed oversight of federal nutrition benefits at Baltimore Farmers Markets, assisting farmers market managers with outreach, data collection.

## **GOALS AND OUTCOMES ACHIEVED**

### 1) Establishment of an Eat Fresh Maryland network:

In the original grant proposal, Crossroads stated its intent to engage eight Maryland farmers markets to establish a network for sharing resources and best practices. The network has grown nearly four times beyond our initial vision. At the close of this grant period, Eat Fresh Maryland has partnership agreements with 30 farmers markets/mobile farmers markets in seven Maryland counties and Baltimore City. They include (listed by county):

- *Allegany County*: Allegany Mountain Fresh
- *Anne Arundel County*: Westfield Annapolis Farmers Market
- *Baltimore City*: Waverly/32<sup>nd</sup> Street, Baltimore Farmers Market and Bazaar, Charles Street Friday Market, Go Life/Cylburn, Highlandtown, Kaiser Fresh Friday, State Center Market, Park Heights/Pimlico, University of Maryland University Farmers Market, West

Baltimore/MARC (did not operate in 2012), Farm Alliance of Baltimore (mobile farmers market)

- *Baltimore County*: Arbutus, Catonsville, Kenilworth
- *Charles County*: Waldorf
- *Frederick County*: Grace Community Church
- *Montgomery County*: Briggs Cheney-Greencastle, Crossroads, Potomac Village, Rockville, Shady Grove, FRESHFARM Silver Spring, Takoma Park, Wheaton
- *Prince George's County*: Riverdale Park, Mount Rainier, Montpelier Farm, Suitland (opening in 2013)
- *Mobile Market*: Arcadia

We have also secured partnership agreements with six non-profits and government agencies who are helping us target their constituents, market the program, and/or provide area expertise on program and materials development. Those non-farmers market entities include: Maryland Hunger Solutions, Future Harvest-CASA, University of Maryland Extension, Maryland Department of Agriculture, Maryland WIC, Maryland Hospitals for a Healthy Environment.

## 2) Successful WIC FVC Marketing Campaign:

With input with network participants and the same graphic designer who works on Maryland's Best, we created branded, bilingual marketing materials promoting redemption of the WIC Fruit and Vegetable Checks (FVC) at Maryland farmers markets to purchase fresh, locally grown produce. Eat Fresh Maryland partners distributed these materials in over 30 communities statewide at farmers markets, local WIC and Department of Social Services offices, senior and community centers, local storefronts, and churches.

These materials include:

- English and Spanish color tri-fold brochures explaining how to use WIC FVC at farmers markets and highlighting the benefits of purchasing local;
- English and Spanish WIC at market 11x17 posters to hang at local benefits offices listing address of closest farmers market;
- English and Spanish "WIC Accepted Here!" banners for display at participating farmers markets;
- English and Spanish fliers for distribution at markets and benefits offices.

By circulating a branded, streamlined set of promotional materials throughout the state, we aimed to generate increased awareness amongst federal nutrition benefits clients that they may use their assistance dollars to purchase specialty crops. Additionally, the development of template materials alleviated the burden placed on individual market managers and farmers to generate materials tailored to their specific market. Name and brand recognition of the Eat Fresh Maryland network serves as a reminder to federal nutrition benefits clients that any location displaying that logo is a site where WIC may be used to purchase fresh, healthy, local fruits and vegetables.

## 3) Technical Assistance and support for MD Farmers Market Managers

Eat Fresh Maryland provided ongoing technical assistance around increasing WIC FVC redemption to Maryland farmers market managers, growers, and organizations that work directly in support of one or both populations. TA was provided in group settings and one-on-one through workshops, conference

calls, site visits, email, and phone calls. See list of Eat Fresh Maryland events in Project Approach for greater detail.

#### 4) Successful data collection to establish WIC FVC sales baseline

Twelve Eat Fresh Maryland farmers markets collected weekly WIC FVC sales from June-October 2011, which they reported on a monthly basis using a standardized reporting sheet developed by Crossroads. The Baltimore markets reported directly to Maryland Hunger Solutions, who then compiled and reported data with Crossroads.

During this five-month period, the market managers reported \$4,811 in WIC FVC sales at their markets. Though this was our first year of WIC FVC data collection and no comparative data is available, Maryland WIC reported an overall increase in WIC FVC sales at farmers markets statewide. While sales reported by these farmers markets were highest in August, which is consistent with peak season for Maryland farmers markets, WIC FVC sales reported for September and October lagged only slightly behind August and were considerably higher than June and July. This consistent redemption later in the season, when markets typically begin to slow down, indicates that the ongoing outreach and promotion throughout the season was impacting WIC shoppers and that there was greater awareness that WIC FVC could be used at farmers markets.

One note: Historically, as evident in the case of SNAP/food stamps, the pilot year of federal nutrition benefits acceptance at farmers markets has been low. However, ongoing marketing and word-of-mouth outreach has led to significantly improved redemption in years 2&3. While this report only covers the pilot (2011) farmers market season, Eat Fresh Maryland partners have reported a dramatic increase in redemption during 2012. We look forward to sharing that exciting information in reporting for the 2012 market season, which was supported through a second year of Specialty Crop Block Grant funding.

To that effect, we had stated in the original grant proposal that our goal in 2011 was to increase redemption of WIC FVC at Maryland farmers markets by 15%. However, it has been a challenge to obtain accurate sales data from either year. We know that sales in 2010 were nominal and that total amount in dollars was not available. As such, we are measuring success based on the other program activities, as outlined above, and are using the data we collected in 2011 to establish a baseline for comparison in future years of the program.

Without statewide sales data for 2010, we can use data collected at the Crossroads Farmers Market to assess impact of the market campaign on WIC FVC sales. As reported in the grant proposal, during the 2009 market season, 758 WIC participants shopped at the Crossroads Farmers Market. In 2010, 930 WIC families used their benefits at market, a 23% increase over the previous season. We had also anticipated that Crossroads shoppers would comprise half of the anticipated 2,000 low-income Maryland families using their WIC FVC at farmers markets in 2013. That number was based on a target of 8 participating markets. However, because the number of Eat Fresh Maryland markets participating in this program was in actuality nearly four times our goal, we estimate that a total of 5,000 WIC families shopped at Maryland farmers markets in 2010.

## **BENEFICIARIES**

This project resulted in three primary groups of beneficiaries.

- 1) *Approximately 100 Maryland specialty crop producers selling at participating markets* benefited from this project through increased revenue from WIC FVCs and the establishment of a new customer base. By actively targeting WIC shoppers and encouraging redemption of their benefits at farmers markets, this project both generated immediate revenue and cultivated a new population of shoppers who will continue purchasing fresh fruits and vegetables at farmers markets beyond the close of this project. WIC shoppers at participating markets often cited word of mouth and encouragement from friends and family as a significant factor in their decision to use their benefits for locally grown produce. Through continued joint marketing and outreach with the local and state WIC offices, increasing numbers of WIC participants will shift their purchase from grocery stores to farmers markets, generating greater revenue for Maryland specialty crop producers.
- 2) *Approximately 5,000 low-income Marylanders* benefited through access to fresh, local, healthy produce. All participating families were able to procure locally-grown fresh fruits and vegetables using their federal nutrition assistance dollars, purchasing fresher, and more nutrient dense produce than is generally available in supermarkets. Access to higher quality, fresher, and better tasting produce generates greater interest in continuing to purchase locally-grown items, supporting local specialty crops producers, and in increased fruit and vegetable consumption, positively impacting health and wellness. Additionally, as many of the partner markets are located in or near food deserts, this project informed low-income Marylanders that they have the option of purchasing fresh produce within relative proximity to their homes.
- 3) *Thirty Maryland farmers market managers* benefited from the support of a network, ongoing technical assistance, marketing support, outreach materials, and signage. Having a centralized entity providing these tools alleviated the burden that would otherwise be placed on individual markets and market managers to develop, fund, and troubleshoot on their own.

## LESSONS LEARNED

Evaluation of this pilot season of Eat Fresh Maryland highlighted both areas for improvement and the need for a statewide farmers market network. Primary lessons are as follows:

- 1) *Collaborative, streamlined marketing strengthens farmers markets statewide by minimizing the burden on overextended market managers, many of whom are also farmers and/or operating the market as part of another job.* Demand for this program is evident in the numbers of participating markets, which dramatically exceeded what we had initially envisioned, in support from local and statewide agencies, and active participation of community organizations. As growing numbers of diverse stakeholders converge to promote farmers markets to new customer bases, specialty crop producers will benefit directly from increased revenue. In future seasons, we will continue evaluating how Eat Fresh can best support market managers in outreach to federal nutrition benefits clients. For example, we are currently assessing our role in liaising between the market managers and local WIC clinics, determining whether it is more effective for the managers to cultivate those relationships or for Eat Fresh to assume primary responsibility for distributing materials directly to the clinics.
- 2) *Multilingual, branded, clearly displayed point of sale signage is a key tool for increasing sales.* Of the multiple marketing materials that Eat Fresh Maryland developed and distributed to partner farmers market managers, the banners were reported by partners to be particularly effective in letting market patrons know that their benefits were eligible for use at market.

- 3) *Low-income households are interested in eating fresh, locally grown produce and are a potential customer base typically overlooked by specialty crops growers.* As demonstrated by the increase in WIC FVC at participating farmers markets over the 2011 Eat Fresh Maryland pilot season and anecdotal reporting from market managers, from 8 participating markets at program launch to 30 at the close of the grant period, WIC clinic staff, and WIC participants, many low-income households are interested in eating healthful foods, fresh foods, and locally grown foods. Eat Fresh Maryland is committed to continuing its work to promote locally-grown produce to WIC families, developing outreach models mutually supportive of consumers and producers.
- 4) *Streamlined data collection is essential for evaluating program impact.* One particular challenge of this project is the difficulty obtaining WIC FVC sales data from specialty crop growers. Because these transactions occur directly between shopper and producer, rather than through a market manager (as with SNAP/food stamp sales), we are relying on farmers to self-report to the market managers, who then provide weekly sales and transaction data to Crossroads staff. We are in ongoing dialogue with producers, market managers, and Maryland WIC to simplify the data collection process and increase accuracy. Of the markets that did collect and report data, managers reported \$4,811 in WIC FVC sales over the five-month period. However, as noted above, this number a) does not include all participating markets, as some lacked the infrastructure and/or farmer buy-in during the pilot season to accurately and adequately collect information, and b) is likely low, due to challenges of collecting WIC sales information. We are dedicating significant staff time to refine and improve data collection systems. Further, we expect that WIC families coming to market for the first time, encouraged by the Eat Fresh Maryland marketing campaign, are spending more than their \$6 or \$10 WIC FVC checks, and are supplementing with cash and/or SNAP (food stamp) purchases. This additional purchasing power and revenue for specialty crops producers is not reflected in our current data.
- 5) *Shifting patterns of consumption is a gradual process.* We consider this pilot season of Eat Fresh Maryland to be a tremendous success. We also recognize that shifting patterns of consumption takes time. With continued education about the importance of eating fresh, healthy, and local, outreach to WIC clients informing them about opportunities to use their benefits at farmers markets, dialogue with specialty crops producers about tips for marketing to WIC families, and we are confident that WIC FVC sales will increase exponentially in seasons to come.

#### **CONTACT PERSON**

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# ADDITIONAL INFORMATION:

## Marketing Materials:

### English

#### What's at market each month?

Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Apples												
Asparagus												
Beets												
Berries												
Broccoli												
Cauliflower												
Chickpeas												
Citrus												
Corn												
Eggplant												
Fish												
Flour												
Olives												
Onions												
Peas												
Peanut butter												
Pineapples												
Spinach												
Squash												
Strawberries												
Tomatoes												

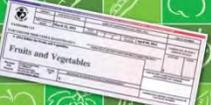
For more information, go to:  
[www.eatfreshmaryland.org](http://www.eatfreshmaryland.org)  
or call (301) 891-7244



Funding provided by the Maryland Specialty Crop Block Grant, a program of the Maryland Department of Agriculture. For more information, see [www.usda.gov/oc/sgd/](http://www.usda.gov/oc/sgd/)



USE YOUR WIC FRUIT & VEGETABLE CHECKS (FVC) AT THE FARMERS MARKET!



#### Using your WIC FVC at market is simple! Here's how:

1. Find a farmers market close to you at [www.marylandsbest.net](http://www.marylandsbest.net), or ask the staff at your local WIC clinic.
2. Look for farmers with signs that say "WIC Fruits & Vegetable Checks Welcome Here."
3. Choose your favorite fresh fruits and vegetables.
4. Have the farmer fill in the total price on your check.
5. Sign your check, and give it directly to the farmer.

#### Using your WIC Checks at the market is more than just a shopping trip:

- **Fresh is best!** Foods that have spent less time on the shelf carry more nutritional value.
- **Taste the difference.** Local fruits and vegetables are more flavorful.
- **Meet the Farmers who grow your food.** Ask questions about the fruits & vegetables you're feeding your family.
- **Enjoy the outdoors.** Farmers markets are a great space for people of all ages to get fresh air and connect with friends. Take advantage of special events, like live music & kids' activities.

#### Fresh fruits and vegetables you can buy at Maryland farmers markets with your WIC FVC:

- Greens- such as spinach, kale, chard
- Tomatoes
- Melons
- Peaches
- Strawberries
- Corn
- Peppers
- Onions
- Apples
- Yams
- Cherries
- Broccoli
- Many, many more! \*White potatoes and herbs are not eligible

#### How to shop at the farmers market:

- Arrive early for the best selection.
- Talk to the farmers for cooking tips, recipes, and information about how the food is grown.
- Bring reusable shopping bags to the market.
- Prepare for the weather! Remember: most markets are open rain or shine!



### Spanish

#### ¿Qué hay en el mercado cada mes?

Producto	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Manzanas												
Frijoles												
Pimientos												
Berries												
Broccoli												
Pechuga												
Cerezas												
Cilantro												
Cilantro												
Maíz dulce												
Percebes												
Berenjena												
Ajo												
Melones												
Oliva												
Peras												
Azanah												
Clulas												
Duraznos												
Espinaca												
Chickpeas												
Fresas												
Cerezas												
Tomatoes												

Para más información, visitar:  
[www.eatfreshmaryland.org](http://www.eatfreshmaryland.org)  
o llamar al (301) 891-7244



Funding provided by the Maryland Specialty Crop Block Grant, a program of the Maryland Department of Agriculture. For more information, see [www.usda.gov/oc/sgd/](http://www.usda.gov/oc/sgd/)



¡USE SUS CHEQUES DE WIC PARA COMPRAR FRUTAS Y VERDURAS EN EL MERCADO DE AGRICULTORES!



#### ¡Usar sus cupones de WIC es simple!

1. Visite a [www.marylandsbest.net](http://www.marylandsbest.net) o pregunte los empleados en la clínica del WIC Local, para encontrar un mercado de agricultores cerca de su casa.
2. Busca agricultores con rotulos que dicen "WIC Cheques de Frutas y Verduras Bienvenido Aquí."
3. Seleccione lo más fresco de sus frutas y verduras favoritas.
4. Asegure que el agricultor llene el cheque con el costo total de la compra.
5. Firme su cheque, y darle directamente al agricultor/ vendedor.

#### Usando sus cheques de WIC en el mercado es más que sólo ir de compras:

- **Fresco es lo mejor!** La comida que está cosechada o preparada más cerca de su casa está más fresca y más nutritiva.
- **Disfrutar la diferencia.** Muchas veces, las frutas y verduras que están cosechadas localmente tienen más sabor.
- **Conocer los agricultores que producen su comida.** Se puede hacer preguntas sobre las frutas y verduras que está comiendo su familia.
- **Disfrutar el ambiente del aire libre.** Mercados de agricultores son espacios muy buenos para toda la familia. Aproveche del aire libre mientras vea a sus amigos y vecinos. Los mercados también ofrecen eventos especiales, como música en vivo y actividades para los niños.

#### Comidas Frescas que se puede comprar con sus cupones de WIC (FVC) para las frutas y verduras:

- Tomates
- Melones, Sandías
- Duraznos
- Fresas
- Maíz dulce
- Chiles dulces
- Cebollas
- Manzanas
- Camotes
- Cerezas
- Brócoli
- ¡Y muchas más!
- \*Papas e hierbas no están permitidas

#### Como ir de compras en el mercado de agricultores:

- Llegar temprano para mejor selección.
- Hable con los agricultores para su consejo de cocina, recetas y información sobre la producción de la comida.
- Traer bolsas reusables al mercado.
- Preparase para el clima del día. ¡Recuerde que la mayoría de los mercados están abiertos con lluvia o sol!



Example of Partnership Agreement:



**Eat Fresh Maryland 2012 Partnership Agreement**

Organization/ Market: \_\_\_\_\_ Representative's Name: \_\_\_\_\_  
Email address: \_\_\_\_\_ Phone number: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_

This letter reflects our partnership in Eat Fresh Maryland, a project of Crossroads Community Food Network. We are committed to increasing access to fresh, local food for Marylanders of all backgrounds and incomes through federal nutrition benefits redemption at farmers markets.

**I verify that:**

- I represent a Maryland farmers market that either has a centralized Electronic Benefits Transfer (EBT) system or is interested in having one in the future AND promotes redemption of FIMNF & FVC
- OR
- I represent a non-profit, community organization, and/or government agency that supports food access through a vibrant network of Maryland farmers markets.

**As partners in Eat Fresh Maryland, we agree to:**

- Participate in at least one in-person Eat Fresh Maryland event in 2012 and 2013
- Share ideas and resources with other partners through conference calls, in-person workshops and events, field days, and/or an online forum
- Report federal benefits data to Eat Fresh Maryland on a monthly basis (where relevant)
- Promote Eat Fresh Maryland within my market/community, including distribution of educational and marketing materials
- Use the Eat Fresh Maryland logo on any relevant publication or signage, upon approval from Eat Fresh Maryland. (Eat Fresh Maryland will respond to request within 5 business days).

**As partners in Eat Fresh Maryland, we will receive:**

- Eat Fresh Maryland multilingual educational and marketing materials and signage
- Invitations to workshops, online communities, field days, and other events
- One-on-one Technical Assistance by phone and/or in-person
- Materials and toolkits around fundraising, outreach, and other relevant topics
- Market-based healthy seasonal eating curriculum
- WIC FVC incentive funding (for pre-approved Baltimore City markets)
- Access to a network of like-minded food system stakeholders
- Support with data collection/reporting and program administration

We are excited to be a partner of this initiative in 2012 & 2013! If we are unable to continue participation, we will inform the Eat Fresh Maryland Directors.

\_\_\_\_\_  
Signature, Title, & Date

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## FINAL REPORT

**Project Title: Maryland on the Menu AKA *The Maryland Harvest***

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### PROJECT SUMMARY

*The Maryland Harvest* is a one-hour documentary about Maryland farms and farmers and the chefs who love them. Houpla, Inc. filmed the program over the 2011 growing season and the film premiered on Maryland Public Television on Tuesday, April 17 at 9 pm with subsequent rebroadcasts. *The Maryland Harvest* scored the highest ratings on the MPT network over Chesapeake Bay Week and generated much discussion about Maryland agriculture in the traditional press as well as online.

In the documentary, host Al Spoler follows chefs from four top Maryland restaurants through the growing season and meets the farmers who produce the primary ingredients for the chefs' culinary creations. There is a food revolution afoot and Maryland farmers and restaurateurs are at the forefront.

What makes locally grown products special, delicious and nutritious? Who are the farmers who grow the food we eat and what are their lives like? How are Maryland farmers and chefs collaborating to develop a new uniquely Maryland cuisine highlighting the flavors of each season?

Spoler teamed with Houpla's Michael Brassert and Brooke McDonald to produce this agricultural tour of "the Land of Pleasant Living." Our tour guides include Woodberry Kitchen's Spike Gjerde, the Charleston Group's Cindy Wolf and Tony Foreman, Rob Plant of Blue Wind Gourmet and David McCallum of the Tilghman Island Inn. These chefs play the role of "experts" in the documentary, providing testimonials about this very real revolution and interest in food production today. As we outlined in our grant application, the themes of *The Maryland Harvest* include: a new respect for local growers, an emphasis on healthy eating, interest in sustainable and organic farming, skill in adapting local products to various ethnic and foreign cuisines, a new interest in our own local culinary traditions and heirloom varieties, and seeing food as an agent for social change, particularly in the schools.

The "Buy Local" movement and interest in sustainability, farming and healthy eating are very much part of the public discourse right now and *The Maryland Harvest* provides an objective and informative treatment of these timely topics while also supporting the Maryland Department of Agriculture's "Maryland's Best" program and, in particular, Maryland's specialty crops.

### PROJECT APPROACH

The Maryland Harvest truly was a labor of love as Houpla filmed farms, farmers markets, fisheries and restaurants throughout the state, interviewing farmers and chefs about what was fresh and delicious in every season. We decided to structure the documentary according to the four seasons -- spring, summer, autumn and winter -- focusing on the special "harvest" for each and showing the Maryland countryside in all its seasonal glory.

Show host and executive producer Al Spoler is producer and host of Maryland Public Television's Chesapeake Wine Country and Brewed on the Bay: Maryland Craft Beers and the creator and co-host of Cellar Notes and Radio Kitchen on WYPR. Michael Brassert is an award-winning director whose credits

include The Adam Smith Money Show and commercials for Fortune 500 companies. Brooke McDonald has produced for MPT, CNN, Bloomberg and Reuters.

Our crews filmed on more than 35 farms throughout the state, 25 of which produce specialty crops. Our original proposal called for 40% of the hour-long program to focus on specialty crops. We estimate the final program features specialty crops for 32 of the 57 minutes or 57% of the documentary. Time spent on other products including dairy, poultry, meat and seafood is about 18 minutes or 32% of the show. The remaining 10% of the program deals with general discussion of farm issues, introduction and end credits.

*In terms of funding for the program, we applied all of the Specialty Crop Block Grant Program funds (\$25,000) to the coverage of the specialty crops in the program. Additional funding from Mid-Atlantic Farm Credit, MARBIDCO, and Houpla paid for the coverage of other topics.*

We worked with our partners at the Maryland Department of Agriculture, MARBIDCO, the Baltimore County Department of Economic Development, and Mid-Atlantic Farm Credit as well as the chefs to identify farms and farmers to feature. And then sometimes we stopped by gorgeous farms we passed along the road and captured the moment.

Here's a list of farmers, farms, chefs and food industry representatives included in the program:

Farmers:

Tom Albright Albright Farms, Baltimore County -- beef and produce  
Cleo Braver Cottingham Farm, Talbot County -- produce  
Billy Caulk Pine Grove Farm, Caroline County -- produce  
Kathy Cropper Friendly Hall Farm, St. Mary's County -- produce  
Holly Foster Chapel's Country Creamery Talbot County -- dairy and cheese  
Tom Godfrey Godfrey's Farm, Queen Anne's County -- produce  
Brett Grohsgal Even' Star Organic Farm, St. Mary's County -- produce  
P.T. Hambleton P.T. Hambleton Seafood, Talbot County -- crabs  
Dave Hochheimer Black Rock Orchard, Carroll County -- produce  
Shane Hughes Liberty Delight Farms -- beef  
Bryan Kerney Truck Patch Farms, Carroll County -- pork and produce  
Phyllis Kilby Kilby Cream, Cecil County -- dairy and ice cream  
Barbie Maniscalco Chesapeake Greenhouse, Queen Anne's County -- produce  
Bob Maze & Kevin McClarren The Choptank Oyster Co., Dorchester County -- oysters  
Will Morrow Whitmore Farm, Frederick County -- poultry and produce  
Lisa Jones-Raymond Dogwood Farm, Talbot County -- produce  
Steve Rouse Rousedale Farm, Harford County -- poultry, eggs and produce  
Cinda Sebastian Gardener's Gourmet, Carroll County -- produce  
Russ Shlagel Shlagel Farms, Charles County -- produce  
Terri Wolf-King Cornerstone Farm, Dorchester County -- poultry and produce

Additional Farms:

Boordy Vineyards, Baltimore County -- wine  
Broom's Bloom Dairy, Harford County -- dairy

Calvert's Gift Farm, Baltimore County -- produce  
Carriage House Farms, Baltimore County -- poultry and produce  
Catoctin Mountain Orchard, Frederick County -- produce  
FireFly Farms, Garrett County -- dairy  
Fountain Farms, Caroline County -- produce  
Gunpowder Bison and Trading Co, Baltimore County -- bison  
Hales Farms, Wicomico County -- produce  
Marvesta Shrimp Farms, Dorchester County -- shrimp  
One Straw Farm, Baltimore County -- produce  
Roseda Black Angus Farm, Baltimore County -- beef  
Simmer Rock Farm, Baltimore County -- produce  
Springfield Farm, Baltimore Country -- eggs, poultry and produce  
Wings Landing Farm, Caroline County -- produce

**Chefs:**

Tony Foreman Foreman Wolf, Baltimore  
Spike Gjerde Woodberry Kitchen, Baltimore  
Mike Harris & Mike Roberts Harris Crab House, Kent Narrows  
Nancy Longo Pierpoint Restaurant, Baltimore  
David McCallum Tilghman Island Inn, Tilghman Island  
Rob Plant Blue Wind Gourmet, Lexington Park  
Galen Sampson The Dogwood Restaurant, Baltimore  
John Shields Gertrude's, Baltimore  
Cindy Wolf Charleston, Baltimore

**Food Industry:**

Mary Baran Keany Produce Co., Landover  
Chuck Nickerson Chuck's Sno & PRO, Stevensville  
Matt Ray Whole Foods Market

**GOALS AND OUTCOMES ACHIEVED**

**1. Air documentary on statewide network for maximum exposure:**

Our first goal for *The Maryland Harvest* was to produce the documentary and shine the spotlight on Maryland agriculture and products. Our next goal was to promote the program and have it touch as many peoples' lives as possible.

*The Maryland Harvest* premiered on Maryland Public Television on April 17, 2012 at 9 pm as part of the network's Chesapeake Bay Week, celebrating the Chesapeake Bay and the environment. MPT's Research Manager Nancy Guyther reports that *The Maryland Harvest* reached 41,480 households in the Baltimore and Washington markets that night and that *The Maryland Harvest* was the highest rated program on the MPT network for Chesapeake Bay Week. As a point of reference, Ms. Guyther has compared *The Maryland Harvest's* ratings to the network's average household impressions from 9 to 10 pm on Tuesday during the first quarter of 2012. *The Maryland Harvest's* viewership average 36,177 households during the four quarter hour periods while the network's average viewership from 9 to 10

pm on Tuesdays in the first quarter of 2012 averaged 23,691. *The Maryland Harvest* increased the time period viewership by 152%.

Ms. Guyther also suggests comparing *The Maryland Harvest* viewership of 41,480 households to the 66,000 households who watched the American Masters special *Johnny Carson: King of Late Night* in May, one of the most popular shows this year. "*The Maryland Harvest* did great," she says.

In addition, Ms Guyther notes that the Maryland Public Television network reaches 1.7 million viewers total broadcasting into four states beyond Maryland -- West Virginia, Virginia, Pennsylvania and Delaware -- further extending the potential audience for *The Maryland Harvest*.

In our grant application, we proposed one measure of our success would be to compare the audience for *The Maryland Harvest* to the audience for Al Spoler's 2009 *Chesapeake Wine Country*. This program's largest household viewership was 23,842 on 4/24/10 at 8:30 pm. Our goal for *The Maryland Harvest* was to exceed *Chesapeake Wine Country's* audience by 10% meaning an audience greater than 26,226 households. We are pleased to report that with 41,480 households *The Maryland Harvest audience* was actually 73% great than that of *Chesapeake Wine Country*.

Another measure of success for any television program is the press coverage which it garners. The most important coverage of *The Maryland Harvest* was actually in a half-page editorial of The Baltimore Sun two days after the premiere on April 19. The Sun has a circulation of 195,561 and the editorial pages are the most read pages of the newspaper.

Entitled "Maryland's Evolving Harvest," the editorial focuses on "a veritable revolution [that] is going on in our midst."

To quote The Sun, "What the true foodies among us likely already know -- and was thoughtfully reported by an excellent Maryland Public Television hour-long documentary, "The Maryland Harvest," first aired Tuesday evening -- is that there has been considerable growth in small, field-to-table farms producing a tremendous variety of fresh, wholesome products." The article goes on to expound on the themes of the program and the benefits of local, healthy food.

Other news coverage -- both print and online -- included: The Carroll County Times, Farm Credit Leader, The Talbot Spy, AmericanFarm.com, The Bay Daily, The Daily Record, CityBizList Baltimore, CityBizList Boston, eWallstreeter, Lancaster Farming, Baltimore Sun, Well and Wise, Southern Maryland Online, AIWF.org, Cockeysville Patch, The Delmarva Farmer.

BaltimoreFishbowl.com published an early article about the program, following the first screening at the Woman's Club of Roland Park in Baltimore. Fishbowl publisher Susan Dunn reports that 837 people visited that story along and that those 837 visits resulted in some 1,631 "actions" which includes all the people who read it, visited more than once, and forwarded or shared it.

Radio coverage of *The Maryland Harvest* included an interview with Al Spoler on Dan Rodricks popular "Midday" on April 13 on WYPR, Baltimore's NPR station, as well as discussion of the program by Spoler and co-host Hugh Sisson on "Cellar Notes" that evening. WYPR reaches over 200,000 listeners a week in Maryland.

Michael Buckley also featured *The Maryland Harvest* and Al Spoler in his April 15 Sunday Brunch “Voices of the Bay” from 7 to 10 am on 103.1 WRNR-FW which broadcasts in Washington, Baltimore and Annapolis.

In addition to the PR related to *The Maryland Harvest* to the media and the public, Houpla also produced a marketing campaign with posters and Facebook-friendly graphics to be used by all the farmers and chefs featured in the program on their own websites, restaurants, farmers markets and local grocery stores. We continue to see these posters at the farmers markets this summer.

## **2. Determine documentary’s effectiveness at delivering message and motivating consumer by measuring change for attitude in viewers:**

The ratings from the MPT broadcast are one important measure of the documentary’s effectiveness, particularly the ratings that indicate that 3/4 of the viewers continued to watch the program throughout the one-hour broadcast.

Television producers also track viewers’ comments carefully to determine the impact of their work. For *The Maryland Harvest*, these include:

“I’ve tried to eat local every meal since the movie. I even felt guilty eating pineapple this morning but I bought that before seeing the show.”

*Dr. Philip Spevak, Johns Hopkins Hospital*

“Your movie made me hungry. I like vegetables AND crab cakes.”

*Kyla Kielty, Fourth Grade*

"There's something for everyone in that film. No matter where you are on the spectrum of eating local and healthy, the film inspires you to do a little more."

*Deb Kielty, Kyla's Mother & Executive Director, World Trade Center Institute in Baltimore*

"I watched the program and I was shocked. I knew nothing, nothing about what was happening on Maryland farms! I was floored. Because of your show, I am now going to the farmers market at Fells Point every Saturday.”

*Nancy Guyther, MPT*

“We’re interested in changing culture. And your program is helping to do that.”

*Dr. Kevin Atticks, Executive Director of the Maryland Wineries Association*

“I appreciate the creativity that went into this program. . . . Work such as your furthers the cause of increasing awareness of Maryland farmers and the Eat Local movement.”

*Martin O’Malley, Governor of Maryland*

We also conducted a survey for viewers. On advice of Faith Wachter of MPT and Roe D’Angelo of Dow Jones, both of whom conduct market surveys regularly, we kept our survey questions simple and direct:

After watching this program, are you more likely to buy local?  
After watching this program, will you seek restaurants that use local ingredients?  
Has this program improved your view of Maryland farmers?

We also conducted a survey of *about 500* viewers. On advice of Faith Wachter of MPT and Roe D'Angelo of Dow Jones, both of whom conduct market surveys regularly, we kept our survey questions simple and direct.

We also conducted surveys on the website. For example:

Which is better?

A. Organic produce shipped from 3,000 miles away

B. Local non-organic produce

91% of respondents chose "Local non-organic produce."

### **3. Create companion website with social media campaign:**

TheMarylandHarvest.com is up and running, particularly helpful in terms of getting the word out about the premiere as well as providing preview screenings for the media. In April, the website had 1,754 Unique Visitors and 14,838 Pageviews according to statistics provided by our hosting service which include the following web analytics: Logaholic, Webalizer, Awstats and Analogstats.

The Maryland Harvest on Facebook and Twitter were also key to promoting viewership on MPT. Facebook statistics include 75 Likes and 30,396 Friends of Fans. The Facebook demographic is 71.1% Female and 27.8% Male.

On Twitter, @MarylandHarvest was busy tweeting with Maryland's Best, Woodberry Kitchen, Gertrude's, Michael Birchenall of "Food Service Monthly," USDA, BmoreFarmersMkt, Whole Foods and more.

Perhaps more important, we also conducted a strong viral marketing campaign on email which reached thousands of readers through personal email lists including those of: Keith Losoya (3,500), Peggy Eppig's "The Buzz" (480+ educators interested in sustainability), Jane Wehrle's Federal Hill Loopster (3,000), the Maryland branch of the American Heart Association and more.

### **4. Extend the reach of the documentary over time and territory:**

Rebroadcasts of *The Maryland Harvest* are part of the long-term goals of the program. In addition to the premiere on April 17 at 9 pm, MPT has already rebroadcast the program on April 18, June 10 and July 1. Through our broadcast agreement, MPT has requested rights to continue airing the program for the next seven years. They also have said they would like to include *The Maryland Harvest* in a package of programming on the environment distributed nationally to PBS stations next spring for Earth Week.

In addition to television broadcasts of *The Maryland Harvest*, Houpla has been fielding requests from organizations and schools to screen the program at events. We did this successfully with our preview screening at The Woman's Club of Roland Park featuring the Spring segment of the program with a

panel discussion by Chef Spike Gjerde of Woodberry Kitchen, Steve Rouse of Rousedale Farm, and *The Maryland Harvest* host Al Spoler, moderated by Executive Producer Brooke McDonald. It was a standing room audience of 220+ on a rainy, cold night in February. Since then, we have held similar screenings and panel discussions at the Maryland Department of Agriculture for the press conference on April 3, the Maryland Agricultural Resource Council's fundraiser at the Baltimore County Center for Maryland Agriculture on May 31 featuring Chef Cindy Wolf of Charleston and Tom Albright of Albright Farms, and at Stratford University in Baltimore on July 9. The Junior League of Baltimore is planning a similar event in the fall related to their "Kids in the Kitchen" program to fight childhood obesity and promote healthy eating. *Please note that The Maryland Harvest television program had already been completed and aired by this point and absolutely no funding from the Specialty Crop Block Grant was used to pay for this event.*

We at Houpla are open to these and other uses of the program, such as those suggested by Dan Rosen of the Maryland Department of Planning: "Other than making me hungry, Maryland Harvest on MPT last night was what Variety would call "BOFFO!" It really highlighted the glorious bounty we have here in MD (and I don't use the word "glorious" very often). The food and the farms looked spectacular. So who's putting together the culinary tour of Maryland and advertising them in New York Magazine?"

We are also working with the Maryland Agricultural Education Foundation to take the documentary into the schoolroom. Peggy Eppig, Director of Middle School Programs at MAEF, has applied for funding to develop a curriculum to accompany the film for Children in Nature and its 2012 Environmental Literacy Programs relating to food systems and agriculture.

At the college level, Audrey Langenhop of Stratford University is developing curriculum around the documentary for use in classes ranging from Culinary Arts to sourcing to nutrition.

Joyce White, Food Historian at the Riversdale House Museum, is also seeking funding to curate an exhibit on Maryland culinary traditions using *The Maryland Harvest* at the Southern Food & Beverage Museum in New Orleans.

Certainly the common theme on many of these requests and plans is that of funding. Houpla remains committed to working with other organizations to secure funding so that the audience of *The Maryland Harvest* continues to widen through screenings at fundraisers, farmers markets, schools, and other venues and events.

## **BENEFICIARIES**

First and foremost, the general public benefits from The Maryland Harvest. To quote Maryland Secretary of Agriculture Buddy Hance: "The documentary highlights the growing importance that top chefs are placing on food that comes fresh from the farm and the partnerships that are being formed between restaurants and farmers to ensure consumers get the best tasting and most nutritious food possible. We hope that as many people as possible will see this documentary and gain a better understanding of where their food actually comes from."

Next, of course, the farms and restaurants featured in the program benefit from the exposure from the documentary and, ultimately, other farms and restaurants do as well.

Tom Albright of Albright Farms proudly displays his Maryland Harvest poster at his stand at the Sunday Baltimore Farmers Market. He told us that many of his customers watched the show and that it was a real benefit for him to have a program which portrays farmers as hard-working, entrepreneurial and “smart.” Three generations of Albrights are now farming on the Baltimore County property which has been in their family since the 1830’s. They raise cattle and poultry and grow produce and plants. “We need to educate the public and most importantly our young people on what is happening on our farms and *The Maryland Harvest* has done precisely that. It’s starting a conversation.”

Steve Rouse grows produce and poultry on Rousedale Farm in Harford County. “People want to know about farms who are growing this good healthy food and *The Maryland Harvest* brings this out to the forefront and lets them know it’s right down the street. People who saw the television show are coming in and saying, ‘I didn’t know you were here.’ It’s been very good. The people who’ve been here loved the show. It’s definitely been a positive force for the farm and for us.”

Billy Caulk of Pine Grove Farm in Caroline County reports, “A lot of people saw the program – a lot more than I would have thought – and they enjoyed it and they learned. They had no idea all of this was going on. I don’t think a lot of people even know that specialty crops are grown right here in Maryland. They thought they were things you could only get in grocery stores. I think *The Maryland Harvest* definitely helped attract a lot more traffic to the farmers markets.”

In addition, there is the economic impact of the “Eat Local” and the Farm-to-Table movements which *The Maryland Harvest* supports. Chef Spike Gjerde calculates the economic impact of Woodberry Kitchen’s business with his farm suppliers at \$1,000,000 per year. *The Maryland Harvest* supports Spike’s efforts and those of chefs and farmers throughout Maryland and, indeed, the country. “It’s important for us to work within the local food system, to support it,” said Gjerde. “If you’ve got a great Maryland peach, what do you need a mango for?”

## **LESSONS LEARNED**

In producing and promoting *The Maryland Harvest*, we realized that we barely scratched the surface of the revolution taking place today in how farmers grow the food we eat and in the public’s interest in the topic. People are indeed hungry for more information and education on this revolution and, as we’ve seen at the events and panel discussions we have hosted, they want learn about and talk about these issues.

## **CONTACT PERSON**

Brooke McDonald, Executive Producer  
410 468 0300  
[brooke.mcdonald@houplastudio.com](mailto:brooke.mcdonald@houplastudio.com)  
Houpla, Inc.  
225 East Redwood Street, Suite 401  
Baltimore, Maryland 21202

# ADDITIONAL INFORMATION

## Examples of Maryland Harvest Press & Marketing:

STATE OF MARYLAND  
OFFICE OF THE GOVERNOR



MARTIN O'MALLEY  
GOVERNOR  
STATE HOUSE  
LEGISLATIVE BUILDING  
ANNAPOLIS, MARYLAND 21403-0001  
TEL: 410-326-7000  
FAX: 410-326-7400  
WWW.GOV.MD

August 3, 2012

Ms. Brooke McDonald  
Houpla, Inc.  
225 East Redwood Street, Suite 401  
Baltimore, MD 21202-3326

Dear Ms. McDonald:

Thank you for the copy of your documentary "The Maryland Harvest". I appreciate the creativity that went into this program. I understand that our Maryland Department of Agriculture supported the production of this film. I am glad they did!

Work such as yours furthers the cause of increasing awareness of Maryland farmers and the Eat Local movement.

Katie and I, as you point out, are big supporters of using Maryland-grown food, as well as strong supporters of our farmers and watermen. I know you have participated in the cookout we've enjoyed hosting for five years now, which features Maryland farmers and chefs preparing local food. It is one of our favorite events because it gives us an opportunity to connect with those who grow our food. It also enables us to meet other supporters of eating locally.

In 2007, according to the U.S. Department of Agriculture's Ag Census, 1,407 Maryland farms sold directly to the consumer, earning about \$21.2 million. Our Agriculture Department is working to support the growth of that sector of our economy, as well as the entire agricultural industry.

Again, thank you for the DVD and your support.

Sincerely,

Governor

MO'Mmp

"I marvel at what farmers do. It's an ancient profession but our Maryland farmers are on the cutting edge and are so innovative and entrepreneurial, not only in terms of what they produce but also in terms of how they produce it. It's such a tough profession and it's important for the general public to understand farming and cherish it and those who commit their lives to providing us with food," she says.

Adds Al Spoler, "We made a conscious decision to show farms and farmers as they are to highlight the passion they have for their work. Russ Shigetel who grows strawberries near Waldorf, Maryland, for example, is so very passionate about the local food movement and protecting the land and the bay and you see that in the film."

As Russ, who farms 650 acres, notes in "The Maryland Harvest", "Farmland is the crown jewel of the state. If we don't take care of the land, it's not going to take care of us economically or spiritually."

**a creative partnership**  
All of the chefs who participated in the making of "The Maryland Harvest" are firm believers in collaborating with local farmers to get the freshest and best food possible for their dishes. Rob Plant of Blue Wind Gourmet works closely with a number of farmers and watermen in St. Mary's County and also buys produce from a local Memmottite coop for five area restaurants.

"Buying locally supports the local community and gives me access to the freshest seasonal ingredients," he explains. "You get a better tasting, healthier product. It costs a little more, but it's worth it. We're getting a much higher quality product than other places in the county. We're getting all types of fruits and vegetables that were normally never in the market, and we're seeing those new products locally."



**farming for the future**  
Not only does eating local mean you get fresher, more flavorful food, it also creates a more intimate connection between the diner and what's on his or her plate. Explains Kathy Cropper, whose Friendly Fall farm supplies Rob Plant with a variety of fruits and vegetables, "If people know what they're eating and where it comes from, it's huge. Kids in the school system have no idea where their food comes from. They know more about McDonald's."

"At the end of the day, farmers are stewards of the land," says Rob Plant. "They promote good farming practices to preserve future generations' ability to farm. Many of them have been working the land for five generations or more. Their children depend on the land and the waterways to provide for their future, so protecting both is important to them."

Most farmers are actively involved in their communities, serving on boards, working in the volunteer fire department. They are all participating in making the community a better place.

"I think the public is just starting to become enlightened on how important farming is and how important farmers are to the success of having great nutrition, good products on the table, and protecting open space and our waterways and that's something that this film will bring to light for people."

For more information on this show, as well as rebroadcast information, please visit: [TheMarylandHarvest.com](http://TheMarylandHarvest.com).

farm | land



## From Farm to Table

New documentary highlights the tie between Maryland farmers and chefs

story by SUSAN WALKER and photos on page 5 courtesy of HOUPLA, INC.

IN A CULTURE THAT IS INCREASINGLY DIVORCED FROM ITS AGRICULTURAL ROOTS, ALL MOST AMERICANS KNOW ABOUT THEIR FOOD IS THAT IT COMES FROM THE GROCERY STORE. BUT THE RISE OF THE "EAT LOCAL" MOVEMENT IS HELPING PEOPLE ALL ACROSS THE COUNTRY RECONNECT WITH THE FOODS THEY EAT AND THE FARMERS WHO GROW OR RAISE THOSE FOODS.

The movement is gaining strength in Maryland right now thanks in part to the advocacy of a number of local chefs and restaurant owners including Spike Gjerd of Baltimore's Woodberry Kitchen, Cindy Wolf of Charleston, and Rob Plant, chef-owner of Blue Wind Gourmet in Lexington Park, Maryland.

really respect what they are doing. I've seen an incredible explosion in cultivars in the last three years and it's inspiring many local chefs as well as folks who cook at home. When people have the chance to try something new, delicious, and local at a restaurant, it can open their eyes to new possibilities for ingredients they can

**1** Blue Wind Gourmet Chef Rob Plant shares his delicious late spring bounty of Cherry Glen Farm goat cheese, Chesapeake Bay crab cakes, and strawberry shortcake laced with Sloop Betty Vodka from Kent Island with Al Spoler.

**2** Al Spoler walks the fields of Rouseville Farm in Harford County where Baltimore radio-personality-turned-farmer Steve Rouse and his partner Vicky Murdock grow organic produce and herbs, raise free-range chickens and eggs, and extract honey.

**3** Al, shown here with the summer harvest at the Waverly Market in Baltimore City, makes weekly shopping visits to most of the major farmers markets in the Baltimore area to inspire his cooking and stock his larder.

**4** Holly Foster shows Al some of the artisanal and raw milk cheeses her family produces at their dairy farm, Chapel's Country Creamery in Talbot County. They also recently started

hans | mats

...the Maryland Harvest documentary...



...the Maryland Harvest documentary...

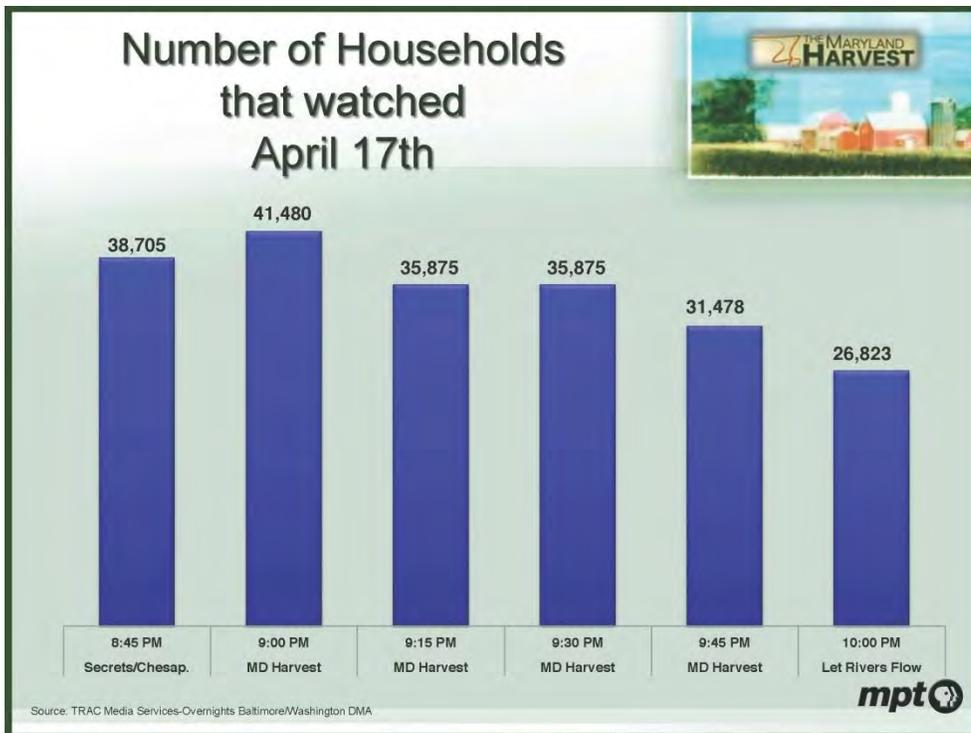


## The Maryland Harvest



- "The Maryland Harvest" is a documentary about Maryland farms and farmers and the chefs who love them. Hosted by Al Spoler and produced by Houpla, Inc., "The Maryland Harvest" takes us on a gastronomic tour of farms throughout the state with talented chefs such as Charleston's Cindy Wolf, Spike Gjerde of Woodberry Kitchen, David McCallum of the Tilghman Island.
- The program aired on April 17<sup>th</sup> from 9-10pm with a repeat 2-3am. Maryland Harvest aired on all MPT's simulated stations (WMPB, WMPT, WCPB, WWPB, WGPT, WFPT).





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## FINAL REPORT

### Project Title: Maryland New Farmer Training Program

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#### PROJECT SUMMARY

A partnership between the Maryland Agricultural Resource Council, Future Harvest CASA, and North County Preservation, The New Farmer Trainee Program provides new or beginning farmers with a combination of hands-on experience and classroom knowledge over a one-year period with the goal of giving them the skills they need to start their own farm operation.

Traditionally, farming knowledge is passed on from one generation to the next within a family. If you are born into a farming family, the technical and economic realities of farming are learned in a first-hand, hands-on way. Over the past hundred years, however, there has been a significant paradigm shift. Children of farmers have chosen different career paths. The average age of a farmer in the U.S. continues to rise while the number of farms continues to dwindle and concentrate into fewer and larger operations. Despite what appears to be a somber outlook for agriculture, there is hope. Buoyed by the continually growing demand for locally grown and sourced produce, small farms focused on specialty crops and organic produce are on the rise. More often than not, these new farmers did not grow up on a farm and therefore lack the farming know-how that is intrinsic within a farming family. What they lack in knowledge and experience, they more than make up for in passion, determination, and guts - it still takes guts to be a farmer. The New Farmer Training Program serves as a conduit linking new inexperienced farmers with experienced practitioners to build their capacity in all things agriculture through the best method there is – hands-on peer-to-peer learning. The mentorship aspect of the program combined with the classroom lessons provide new farmers the tools and confidence they need to successfully move from idea to production and hopefully down the line from small-scale production to larger scale production.

#### PROJECT APPROACH

The New Farmer Trainee Program was developed to help highly motivated novice farmers gain sufficient farming experiences to become successful farmers. The program includes classroom instruction as well as field experience and help exploring land-leasing options. The trainees work shoulder to shoulder with mentor farmers one full day a week during the growing season and attend one farming conference, sponsored workshops, and farm tours and train 6 hours one day a week from April thru October. A small stipend is paid to the trainees.

The USDA defines specialty crops as “fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture).” One criterion used to determine placement in the New Farmer Training Program is crop type – with those producing non-specialty crops disqualified from participating in the

program. Therefore, every “crop” training that was held within the New Farmer Training Program was specially designed for specialty crops.

## **GOALS AND OUTCOMES ACHIEVED**

The Maryland Agricultural Resource Council (MARC) successfully completed another year of the New Farmer Training Program thanks to the generosity of the Maryland Specialty Crop Grant Program and the many private individuals that support our mission to introduce a new generation of would be farmers to the opportunities in agriculture.

MARC is working with partners such as Future Harvest/CASA, Baltimore County Department of Parks, North County Preservation, Farm Credit, University of Maryland Extension and others to expand program offerings to a broader array of industry sectors and targeted participants.

Activities in 2011 were focused on delivering a broad base of training and educational experiences to the New Farmer Trainees. The intent was to expose trainees to a full range of farm management and marketing issues through classroom training, followed by 24 weeks of in-field, practical training within a single discipline such as wine grape production, bramble production, and organic vegetable production. Brief descriptions of the program follow:

### *1. Winter Educational Coursework*

University of Maryland Extension Professionals taught a series of seven classes held at the new Ag Center in Baltimore County. Approximately sixty participants attended, including the NFTP trainees, to learn about topics covering: Marketing Essentials; Small Farm Business Planning; Soil Fertility and Conservation; Season Extension; Small Farm Business Plan; Pest, Disease, and Weed Management; GAP and Post Handling. The trainees also attended a “Seed” potluck dinner meeting, a “Tools and Supplies” dinner meeting, and a “Chef Needs” dinner meeting, led by Baltimore renowned sustainable local food restaurant entrepreneur, Spike Gjerde, of Woodberry Kitchen.

### *2. Field Training*

Of the seven trainees, five trained with organic vegetable farmers for one six-hour day per week from April through October. One trainee spent a year at a vineyard and the last trainee worked on both an organic fruit farm and a vegetable farm. The shoulder to shoulder hands-on training covers a broad range of topics beginning with planting and ending with harvesting. Also included are discussions and hands-on experience on the topics listed in #1 above.

### *3. Farm Tours*

From May through August, nine local farms were visited, including the new farms of a few of our trainee graduates. Usually the tours ended in the evening with a potluck dinner which enabled the small group to ask more questions and to develop a sense of camaraderie. This support network, which continues to develop over the years in NFTP, has been one of the greatest benefits of the program.

*4. Conferences*

At the beginning of the NFTP year, all trainees attend one of the agricultural conferences in January or February. This year, all trainees attended the Future Harvest Conference for one or two days in January. There was a lunch meeting at the conference to meet and discuss the NFTP plan for the year.

*5. Program Assessments*

The final activity in 2011 will be to conduct final program assessments with both the mentor farmers and the new farmer trainees. These assessments will be completed on November 30, 2011 and will be available.

Program activities for the FY2012 were concluded in October 2012. The objectives for program year 2012 focused exclusively on training and building the capacity of the seven candidates in the program. The following table highlights MARC’s performance toward the performance objectives stated in the grant.

<b>Maryland New Farmer Trainee Program Performance Objectives</b>			
<b>Objective Name</b>	<b>2012 Targets</b>	<b>2012 Actual Performance through 9/17/12</b>	<b>2012 Benchmark Performance</b>
New Farmer Trainees and New Farmers	8-10 Trainees	7 new farmers coming out of the 2011 trainee class	A. Nine trainees entered the program in winter 2011. Two trainees left the program due to inability to meet program attendance requirements. B. Training and coursework activities were supported by Maryland Cooperative Extension, North County Preservation, and Baltimore County C. All candidates completed field and classroom participation requirements 10/31/2011. D. All candidates completed program mid- term evaluations. E. MARC and Future Harvest are assisting Trainees with an interest in farming with future development activities. F. Final Questionnaire (Appendix A).
Number of Crops Produced	15-20	170+	Number of crops produced far exceeded expectations.
Total Farmers Market Sales	\$30,000-60,000	\$47,000	Farmers Market sales were in line with targeted amount.
Number of CSA Customers	40-125	25	Only 2 out of 7 farmers sold produce through CSA.

Cost per CSA Membership	\$300-600	\$500	Based on those two farmers mentioned above.
Sales Volume of CSA	\$18,000-\$75,000	\$19,500	Again, based on two farmers, but still within projected amount.
Number of Farmers Using Maryland's Best	5-7	2	Below projections. No feedback given.
Number of Acres in Specialty Crops	10-60	2.5 acres	Much less than expected.

The number of CSA members did meet the target for 2012. This number is misrepresented only because 3 trainees decided to pursue sales to wholesale accounts and restaurants. Only two of 7 trainees have a CSA in their business plan. One trainee had a CSA with 20 members; and one with 5 members. The other two trainees do not have a CSA. They chose to pursue wholesale and restaurant sales to make up the rest of their income. This is not measured in the above Benchmarks for 2012.

The trainees are recognizing their strengths and pursuing income streams not mentioned in the original grant. Three wholesale accounts are also part of the unrecognized 2012 Benchmarks. Ten restaurants are served produce from these trainees that are not part of the original benchmarks for the 2012 evaluations.

The NFTP has prepared these trainees to begin their farming career with classroom education and hands on experience. Only one trainee is not farming in any capacity in 2012. 100% of the trainees intend to farm in 2013. Several of the trainees also intend to expand their current operations in 2013. One is starting a new urban agricultural program with low-income seniors as farm manager.

**BENEFICIARIES**

*Future Harvest CASA as Beneficiary:*

Through this grant, the Maryland Agricultural Resource Council (MARC), acting as incubator, was able to build the capacity of Future Harvest CASA, a non-profit organization that promotes profitable, environmentally sound and socially acceptable food and farming systems that work to sustain communities. Together, the two organizations built a New Farmer Training Program, and created a farmer mentor system which continues to graduate progressively more farmers each year (7-2011; 10-2012) who, in turn, are creating jobs and stimulating the local economy. Future Harvest CASA has assumed control of the program which frees MARC to help build the capacity of other agricultural entities.

*Local Municipalities as Beneficiaries:*

The New Farmer Training Program has built and strengthened local supply chains of fresh, organic produce. New farms located in Baltimore City, Montgomery County, and Southern Maryland are

investing resources locally, creating jobs locally, and selling to local businesses and residents. Money that used to flow out is circulating within.

- 43% of the 2011 graduating class of New Farmers sell produce locally through a combination of farmer's markets, CSA's and local restaurants.
- A CSA customer base of twenty-five (25) was built.
- Between \$75-\$150,000 in gross sales were realized by graduates in 2012.
- Approximately \$33,000 in sales to local farmer's markets.
- 10 local restaurants purchasing produce from program graduates

#### *Mentors as Beneficiaries:*

Mentors are most often the giver of knowledge not the receiver. However, it seems that by bringing together new farmers and established farmers – information, knowledge, and innovation, is flowing both ways – which is raising the capacity of all. For example, one new farmer, who is always looking for the hottest produce on the market, introduced his mentor farmer to a Spanish tapas pepper that is all the craze in area restaurants. The mentor farmer was open to the new pepper, gave it a try, found great success with it, and has since added it to his inventory.

#### *Mentees as Beneficiaries:*

One mentor farmer admitted that it took him 10 years to learn how to effectively grow lettuce for production. That knowledge and experience was transferred to his mentee who – before entering the program never gave lettuce a second thought - in 12 months planted, grew, harvested and sold lettuce making a profit.

## **LESSONS LEARNED**

The program suffered a few unexpected problems and delays during the FY11 program year. These problems were limited to the removal of two trainees from the program due to their inability to meet the program's requirements. We believe the solution to this problem is to change the payment relationship between the program and the participants by requiring an investment from the trainee to assure their commitment.

Other problems were minor and involved developing clear contracts with the mentors and program director that allowed us both the flexibility to run the program while meeting the grant requirements for recordkeeping and contract management. To alleviate this problem, MARC spent the early part of the FY11 grant period developing new contracts and reporting protocols for the mentors, program manager, and trainees.

## **CONTACT PERSON**

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## **ADDITIONAL INFORMATION**

Please see attached; the final questionnaire completed by the seven farmers who completed the Maryland New Farmer Trainee Program. In summary:

- There were 7 trainees sent questionnaires, 7 responded. (See Appendix A).
- Five of the 7 trainees were farming in 2012.
- All 7 plan on farming in 2013.
- The trainees on average are farming 1-3 acres.
- One trainee is farming 150 acres and planted <1 acres of hops and grapes.
- Two farmers are running a CSA. One is a traditional CSA with up-front payments for the season. The second had a unique method where \$100 is paid and spent down as used, and then another \$100 payment is made, thus encouraging those with limited resources. This is a new model payment for a CSA.
- Four are using wholesale accounts in their business plan.
- Three sell to restaurants. 10 restaurants are being served.
- One is using value added products.
- Two of the farms utilize the Maryland's Best program in their marketing.
- One had a total crop failure early in June 2012, but is consulting in 2012 on an urban farm to begin in 2013 serving low-income seniors.
- Two farmers are utilizing the Maryland's Best Program in their marketing.
- Two are not able to utilize since they are not farming.
- One trainee who planted grapes and hops will utilize when the crops are ready to be sold.

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## FINAL REPORT

### **Project Title: Maryland Christmas Tree Association *Buy Local-Buy Real* marketing and promotions campaign**

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#### **PROJECT SUMMARY**

The purpose of this program is to reverse the long term trend of a decline in real tree sales for the holiday season that has been experienced by growers of real Christmas trees in the state of Maryland and nationwide.

According to the most recent, 2008 USDA NASS survey, Maryland has experienced a 7% decline in acreage for Christmas trees, a 22% decline in trees harvested for sale and a 12% decline in Christmas tree farms. This trend is directly attributable to the heavy promotion of fake trees by the mostly off shore artificial tree industry and the sales of out-of-state trees by the large national retail chains.

The Buy Local – Buy Real program was implemented to communicate to the existing and potential Christmas tree consumer the benefits of using a real tree, the importance of supporting the local Christmas tree farming operation, the environmental benefits of using a farm grown tree and the negative impact of fake trees on the environment and the local farming community.

The 2010 campaign also leveraged the success of the 2009 marketing and communications campaign which was also enabled by a SCBGP grant and which was the first comprehensive state wide program implemented in the state of Maryland to promote the use of real trees. The selected media mix for 2010 was fine tuned based upon the results of the 2009 program as well as improved integration of the program with the local marketing and promotions by the individual MCTA members. Based upon the key learning's derived from the 2009 campaign we were able to launch the 2010 campaign earlier and with better results.

#### **PROJECT APPROACH**

Beginning on 11/17/2010 a state wide integrated media campaign was launched:

- 86 radio ads on the number 1 &2 ranked radio stations in Maryland featuring 4 distinct ads covering real vs. fake trees, green benefits of real trees and celebration of the 500 year anniversary of the first decorated Christmas tree.
- Christmas music programming sponsorship with 780 live promotional announcements
- Participation in a Christmas Wish program with WWMX to support needy families with 460 live and prerecorded mentions and presence on the associated Twitter page that achieved 12,601 views .
- 120 promotional radio announcements connecting to the 500 year anniversary of the first decorated Christmas tree with 4 email blasts to the listener base.
- Wide scale web advertising including WWMX/WLIF/WIAD/YAHOO/AOL site presence with streaming video, banner ads, pre-rolls and articles achieving 93,391 banner impressions, 21,103 video prerolls and 372,343 streaming ad impressions totaling 686,837 impressions.

A joint initiative was launched with the Embassy of the Republic of Latvia to promote the 500 year anniversary of the first decorated Christmas Tree which occurred in the city of Riga. This included the placement of a 15 foot tree at the Latvian embassy in Washington D.C. and placement of a companion tree in the city square of Riga by the U.S. Embassy to Latvia. The MCTA shipped traditional Christmas tree ornaments to the embassy in Riga for placement on the tree and the city of Riga provided authentic ornaments for the tree at the embassy in D.C. FEDEX contributed shipment of the ornaments as part of their involvement with Christmas tree growers nationwide in the Trees for Troops program. CBS radio and the city of Riga worked together to provide a trip to Riga for someone visiting an MCTA farm to register.

The MCTA worked with the Southern Maryland Agricultural Development Council (SMADC) to implement a “Buy Local Holiday Challenge” to further promote the use of locally grown trees involving placement of articles, logos and a 15 second video on their website as well as an email blast to challenge participants. This generated 7,833 unique visitors, 10,098 total visits, 33,932 pages viewed and a total of 217,617 total hits on the SMADC .

The Maryland Department of Agriculture (MDA) supported the program by updating the MD Best website to include all MCTA member farms and providing a hyperlink to the MCTA website. MDA arranged the visit by the Governor and family to a local MCTA farm for the selection of their family Christmas tree along with media coverage. Pictures of the event were also placed on the Governor’s web site as well.

## GOALS AND OUTCOMES

The following details the goals and outcome for each measurable project element.

PROJECT OBJECTIVES	PROJECT RESULTS
Increase Tree Sales By Average Of 5% Or 21 Trees Per Farm	Achieved Increase In Tree Sales Of Average 73 Trees Or Approximately 16%
Increase Customer Traffic By 5%	Realized Average Increase Of 6.3% Average Per Farm In Customer Traffic
Achieve 10% Increase In Mcta Web Site Activity	Using Google Analytics To Analyze Results Shows That For The 2010 Period: <ul style="list-style-type: none"> <li>• Unique Visitors Increased 22% From 6809 To 8308</li> <li>• Number Of Visits Increased By 17% From 29,055 To 35841</li> <li>• Number Of Hits Increased By 12% From 203,024 To 228,169</li> </ul>
Implement Holiday Buy Local Challenge	<ul style="list-style-type: none"> <li>• 7,833 Unique Visitors</li> <li>• 10,098 Total Visits</li> <li>• 33,932 Pages Viewed</li> <li>• 217,617 Total Hits</li> </ul>
Implement Social Networking Advertising	Combined Mcta/Cbs Christmas Wish Twitter And Facebook Pages Achieved 12,601

	Viewings
Exceed Industry Averages For Statewide Web Marketing Campaign Elements	Click Thru Rates For Web Elements And Industry Avgs: <ul style="list-style-type: none"> <li>• Banner Ads Click Through Rate Of .51 Vs Ind Avg Of .37</li> <li>• Video Preroll Ct Achieved Of 1.18 Vs Ind Avg Of 1.05</li> <li>• Streaming Ad Ct Achieved Of .15 Vs Ind Avg Of .12</li> <li>• Combined Overall Ct Of .023 Ct</li> </ul>

**BENEFICIARIES**

The direct beneficiaries of the program were the member farms of the MCTA which realized an average sales increase of 73 real trees and increased customer traffic of 6.3%. We also can project that non MCTA affiliated farms most likely saw an increase in real tree sales as well as a result of our extensive advertising for real trees across the state.

**LESSONS LEARNED**

Based upon our experiences in the 2009 and 2010 campaigns our key learning's include:

- WEB based communication/advertising is increasing as an important element of any campaign
- However, the complex rules, regulations and attributes of the various web components available make it difficult for volunteer based organizations like ours to fully exploit without professional help
- Increased focus on enabling the individual members to develop and implement their own locally customized advertising messages and media mix will be necessary as the WEB continues to develop
- Member farms that do not utilize email make it difficult to keep everyone informed of program implementation and local involvement.
- For two consecutive years now the member farms of the MCTA have been able to go against the national trend of decreasing sales of real trees, which the National Christmas Tree Association estimates at a 4% decline in 2010. Our 2010 results of an average 16% increase shows the importance of communicating the many benefits of using real trees to the consumer base, especially to the younger emerging consumers.

**CONTACT PERSON**

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## FINAL REPORT

### **Project Title: Reducing the Barriers Facing Maryland Fresh Fruits and Vegetables Producers in Implementing an Effective Food Safety Program (GAPS)**

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#### **PROJECT SUMMARY**

The Maryland Department of Agriculture's (MDA) Food Quality Assurance Program (FQAP) has conducted Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs) audits for fruit and vegetable producers and handlers through a cooperative agreement with USDA, AMS for several years.

FQAP has also assisted the University of Maryland with providing training sessions to producers concerning GAPs and GHPs. During the audits and training sessions, FQAP identified economic and technical barriers for specialty crop producers trying to implement GAPs and/or GHPs. FQAP was previously awarded specialty crop grant money to address these issues. The purpose of this project was to continue the successful work of previous grants in mitigating food safety risks by reducing the economic and technical barriers to implementing GAPs. This project was important to producers not only to meet the demands of buyers but to also start implementing practices to meet the upcoming FSMA regulations. This project built on previously funded specialty crop grant projects "Good Handling Practices and Good Agricultural Practices (GHP/GAP) Certification Cost-Share Assistance" to provide cost share assistance for certification fees for producers obtaining USDA GAP certification; cost share assistance for implementing GAP practices; GAP training sessions; one to one assistance in writing food safety plans and implementing GAPs; and MDA GAP inspections and certification.

#### **PROJECT APPROACH**

A dedicated position at the University of Maryland was filled in April 2011 to coordinate GAP training and provide one to one assistance to fruit and vegetable producers. In addition to the formal training sessions and one to one assistance, written materials were developed to assist producers in writing and implementing their GAP plans. These materials were made available to producers at training sessions, on MDA's website and mailed upon request. Feedback from producers and training evaluations were reviewed and used to make the training sessions more effective. The most significant change was to include actual plan writing for the producer's own farm as part of the course. To assist with plan writing both during and after the training sessions, relevant materials were presented on a flash drive. The training attendee was able to save their GAP plan started at the session on the flash drive and have all of the materials necessary to complete their plan at home. MDA also reviewed existing GAP materials and utilized the worker training materials (DVDs and signs) developed by the National GAP program at Cornell. Producers were provided with these so they could train their own employees.

The GAP program geared towards direct marketers and MD farm to school fruit and vegetable producers was developed, finalized and implemented cooperatively with the University of Maryland. The plan now includes assistance to producers in meeting the anticipated FDA rule requirements. Training sessions offered to specialty crop producers now include a segment on the FDA proposed rule and MDA GAP program requirements are being adjusted so compliance with GAP will also mean

compliance with the FDA rule. The audience has been identified as fruit and vegetable producers and notification of the program has taken place through press releases, emails and regional Extension offices. Inspections for MDA GAP include verification of compliance with the requirements of the FDA rule. Additional adjustments will be made to the program when the rule becomes final. Nineteen specialty crop producers were inspected and certified as compliant with the MDA GAP program that included FDA proposed rule requirements.

Two MDA employees attended continuing education and lead auditor training to maintain their USDA auditor status and two additional employees received initial training in preparation to meet the demands of increased inspections/audits as a result of the MDA GAP program.

Criteria and an application process for cost share were developed for the implementation of GAP practices. The program was marketed to potential customers through emails to fruit and vegetable producers and presentations made during GAP training sessions for producers. Criteria established for projects required demonstration that the project would improve food safety. An application and list of examples that could be approved for cost share were developed and distributed to producers (Application and Cost Share List of Examples are included at the end of this report). Specialty crop producers were required to submit an application detailing what they hoped to achieve along with estimates of project cost. Awards were based on each applicant receiving a percentage of their project funded based on the amount of cost share funding available with a cap of \$4,000 per applicant. Applicants were notified of their award amount and were required to submit copies of invoices/receipts prior to cost share being issued. Fruit and vegetable producers received funding for projects that improved the water quality, worker health and hygiene, and packing house sanitation. Seven specialty crop producers received cost share assistance to implement good agricultural practices that improved water quality, improved sanitation of harvest and packing equipment, and improved pest control in packing sheds. Eighteen producers received cost share reimbursement for USDA GAP audit fees.

The target audience for all programs funded by this grant was notified through postings on MDA's website, direct emails to fruit and vegetable producers registered with MDA's Maryland's Best program, through the Extension offices, development and distribution of a University of Maryland Extension Bulletin and press releases.

The overall scope of this project did not benefit commodities other than specialty crops.

The University of Maryland including Cooperative Extension was a partner in this project and made significant contributions. In particular, they assisted FQAP in planning and presenting training, developing training materials, providing the one to one assistance in writing and implementing a GAP program and notifying specialty crop producers of the project. The University of Maryland also provided funding for the flash drives used for training sessions.

## **GOALS AND OUTCOMES ACHIEVED**

One of the goals was to increase the number of specialty crop farmers certified/approved by MDA as being in compliance with USDA GAP. Thirty different farmers have become USDA GAP certified during this project. The same farmers do not always become recertified each year depending on crop yield and sales so the number has not increased significantly each year. However, MDA verified all

thirty of the farmers have implemented GAPs that meet the USDA audit standards. Nineteen specialty crop producers were inspected and certified as compliant with the MDA GAP program. This falls short of the revised goal of one hundred MDA GAP certified producers. Additional farmers have been implementing GAPs and have indicated they will soon request the MDA inspection to verify compliance. MDA expects this number to increase significantly during the next growing season. Through communications with these farmers at training sessions, during the one to one assistance, telephone calls and letters, MDA believes at least 100 farmers are in the process of implementing practices with the intention of requesting the MDA GAP audit.

Another goal of the project was to increase the number of specialty crop farmers that implement Good Agricultural Practices. Three hundred producers have implemented better worker health and hygiene policies as a result of cost share of educational materials. Seven producers have implemented good agricultural practices related to water quality, harvest and packing equipment sanitation, and pest control using cost share reimbursement from this project.

Three hundred and seventy five producers have attended training sessions provided during this project. The training sessions provide specific details on improving the on farm good agricultural practices for specialty crop production. It is assumed that most of the 375 farmers attending these sessions have implemented at least some of the good agricultural practices. Almost two hundred producers have received one to one assistance in writing a GAP program and successfully implementing the plan.

Two additional MDA Food Quality Assurance employees received training to become qualified as GAP/GHP auditors. Four MDA Food Quality Assurance employees attended continuing education sessions to maintain their USDA Auditor status. One MDA Food Quality Assurance employee successfully completed the ISO Lead Auditor training.

## **BENEFICIARIES**

Fifty fruit and vegetable producers attended training sessions geared towards USDA GAP certification. An additional 325 producers attended fourteen training sessions that were intended for Direct Marketers but attended by both direct marketers and wholesale marketers as they still covered the basics of GAP. Two hundred specialty crop producers received cost share for worker health and hygiene educational materials used to implement effective employee training programs for good sanitation practices for production, harvest and packing workers. Seven specialty crop producers received cost share assistance to implement good agricultural practices that improved water quality, improved sanitation of harvest and packing equipment, and improved pest control in packing sheds. Eighteen producers received cost share reimbursement for USDA GAP audit fees. The beneficiaries have been able to maintain or increase their market share by meeting the food safety requirements of buyers and consumers.

## **LESSONS LEARNED**

Interactions with farmers concerning GAP identified the actual writing of food safety plans to implement GAPs is the biggest barrier. We found that those that attended training sessions frequently did not follow through on actually writing their plan as they found it overwhelming. The training sessions were revised to include a hands-on segment where farmers begin to write their own plan for their farm. This has been a very successful change and has increased the number of producers

implementing a GAP program. FQAP has obtained other Specialty Crop grants to assist farmers in writing and implementing GAPs to continue the work of this project. The goal of steadily increasing the number of farmers that are GAP certified was difficult to meet. Although producers implemented and requested USDA audits initially, many did not request in subsequent years as their crop may have suffered significant pest damage, was being sold for processing instead of for the fresh market, etc.

Initially, FQAP anticipated that once a producer became USDA GAP certified they would maintain that certification each year. The primary reason farmers gave FQAP was there was no sense in spending the time and money for an audit if their buyer was not requiring it or they had little crop to sell (frost or insect damage was cited as the reason for reduced crops to sell). MDA has found that most of these producers continue to follow their GAP program even though they may not request an audit every year.

During the first year the MDA GAP certification program was offered, only three producers requested the inspection and certification. The following year nineteen specialty crop producers requested the inspection and certification. Feedback from the producers new to the program this year indicated the posting of others on MDA's website as having passed the inspection was encouragement to them that they could successfully pass the inspection and obtain certification.

## **CONTACT PERSON**

Deanna Baldwin

Telephone: 410-841-5769

Email: [Deanna.Baldwin@maryland.gov](mailto:Deanna.Baldwin@maryland.gov)

## **ADDITIONAL INFORMATION**

### Cost-Share Example List

The following are examples only of types of purchases that are eligible for the Good Agricultural Practices Implementation Cost Share. The costs listed are estimates from various companies so you should verify the actual cost with the supplier of your intended purchases. Other types of purchases will be considered and approved for cost share dependent on their effectiveness in implementing a Good Agricultural Practice.

#### Farm

Cost of water testing -- \$50 per sample

Handwashing station – These can often be “homemade” at less cost (ie, cost of parts), but to buy one runs \$500 to \$1,000

Chlorine meter -- \$200, \$6-\$15 for chlorine test strips (for very small-scale operations).

pH/temperature/ORP meter -- \$139

Traceback software -- \$1,450

Tomato box liners, and other such products to make “unsanitizable” containers reusable

Picking crates that can be sanitized

Composting equipment

#### Packinghouse

Rodent traps -- \$16 each (live rodent traps)

Chlorine/ peroxyacetic acid injector

Chlorine tablets -- \$165

Crate washer – These can be (and are often homemade, for cost of parts). A stainless steel industrial system runs about \$1,500 and up

Pallets (for setting crates and boxes up off the ground) – \$30-\$80

Hand sanitizers -- \$60-\$120 (Hand sanitizer station, tabletop to free-standing)

Light covers -- \$60 each. These vary widely between lighting types and brands, this is the high end of the spectrum.

Plastic curtains/ partitions (to separate packinghouse area and minimize contamination) -- \$150-\$400 and up, depending on the industrial quality of the product, if it is custom-made for the area, etc.

## COST –SHARE APPLICATION

**Return to: Maryland Department of Agriculture  
Food Quality Assurance Program  
50 Harry S. Truman Parkway  
Annapolis, MD 21401  
(410) 841-5769      FAX: (410) 841-2750**

**RETURN NO LATER THAN OCTOBER 25, 2012**

Please complete all sections of the application.

**SECTION 1 – Farm and Contact Information**

<u>Name:</u>	<u>Farm Name:</u>
<u>FID/EIN Number: Must be included for cost share money to be issued</u>	
<u>Good Agricultural Practice(s) to be Implemented:</u>	<u>Address:</u>
<u>Phone Number(s):</u>	<u>Email address:</u>

**SECTION 2 – Purchase Costs**

List any purchase(s) you intend to make (or have made) to implement a Good Agricultural Practice. Examples of purchases that would be approved are on the “Cost Share Example List”. Items do not have to be on the list to qualify for cost share. Items will be evaluated for their effectiveness in implementing a good agricultural practice. If you have not yet purchased the item(s) you will be notified prior to purchase of the amount of cost share you will receive.

Along with each intended purchase (or purchase you have already made), list the proposed cost and include documentation. Documentation may include receipts, quotes, a webpage printout, etc.

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## FINAL REPORT

### Project Title: Pesticide Sensitive Crop Locator

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#### PROJECT SUMMARY

With the increase in the number of acres and individuals growing specialty crops in Maryland, there is also an inherent issue involving the increased potential for crop damage as a result of spray drift from pesticide applications made to adjacent properties. This creates a real need for providing pesticide applicators with a method of obtaining specific information regarding the type of specialty crops and the locations where they are grown in Maryland. This information will assist pesticide applicators in identifying locations where specialty crops are grown in order to take extra precautions for preventing the potential exposure of specialty crops to spray drift from neighboring fields

#### PROJECT APPROACH

This project will help minimize the potential for damage to specialty crops from pesticide spray drift. By educating pesticide applicators in the proper selection of spray nozzles, application equipment, equipment set-up, adjuvants, and pesticides along with observing weather conditions to minimize spray drift this can be accomplished. If extra precautions are not taken there is increased potential for the spray to drift outside the target area resulting in damage to specialty crops. By indentifying locations where specialty crops are grown applicators can select those pesticides and pesticide formulations, particularly herbicides, which do not pose extra risk to specialty crops, such as grapes, tomatoes and beans. Likewise, they can avoid those herbicides, such as 2,4-D, MCPA and dicamba, that can easily damage these sensitive crops. This project will also help in reducing the potential for illegal pesticide residues on specialty crops as the result of spray drift which may make the crops unmarketable.

#### GOALS AND OUTCOMES ACHIEVED

- A. The Maryland Department of Agriculture's (MDA) Pesticide Regulation Section (PRS) staff provided outreach information regarding the Specialty Crops Pesticide Sensitive Database in September of 2010. Outreach was provided to growers through presentations by PRS staff during annual commodity and grower association meetings. Likewise, outreach information was also provided to pesticide applicators during mandatory pesticide applicator recertification meetings for both commercial and private pesticide applicators. Additionally, University of Maryland Extension Agents, who work closely with many growers, assisted in providing outreach information to growers and pesticide applicators.
- B. The PRS also developed and printed an informational brochure entitled "Preventing Herbicide Damage to Sensitive Crops." This brochure has been widely distributed to pesticide applicators (commercial, public agency and farmers) and grower groups. The brochure provides information on factors, such as weather conditions, pesticide products and formulations that a prone to spray drift, spray droplet size, pesticide application equipment that can reduce the potential for spray drift. The

brochure also provided information on how to avoid or manage spray drift, as well as, information regarding the development of the Pesticide Sensitive Crop Locator database and website.

- C. MDA's Office of Information Technology Services and Pesticide Regulation Section developed a database to store grower information regarding pesticide sensitive agricultural commodities produced in the state of Maryland. The grower information that will be stored in the database includes the following information:
1. Growers name.
  2. Growers address (street, city, zipcode, county, telephone number and email address).
  3. Type of crops or commodities grown or produced (ex. Field Crops, Vegetables, Fruit, Horses, Cattle, etc.) .
  4. Location(s) where agricultural commodities are grown or produced, including address and GPS coordinates.
  5. Whether crop or commodities grown certified organic.
- D. In March of 2011, the PRS developed an application form for growers to be listed in the pesticide sensitive crop locator database. In completing and submitting the application form growers provide MDA with the information listed in item C, above. A copy of this application form is provided. Subsequently, the University of Maryland Extension Service, a project partner developed an Adobe pdf version of the application that allows growers to fill out the application online and submit it electronically (via email) to MDA. Their assistance with outreach efforts and streamlining the application process were significant contributions to the project.
- E. The PRS began receiving applications from growers in late March of 2011. Each application was thoroughly reviewed, for quality control purposes, before the data was entered into the database. To date, the PRS has received and entered eighty-six (86) applications from growers to have their crop/commodity information placed in the database. This more than doubles are target goal of forty growers participating in the first year of the project.
- F. From data entry of the eighty six (86) grower applications submitted, the database contains one hundred eight (108) sites where pesticide sensitive crops/commodities are grown or produced. The acreage covered by these 108 sites totals two thousand seven hundred and eighty five (2,785) acres. The locations comprised seventeen of Maryland's counties. County acreage totals ranged from 794 acres to 1 acre (
- G. MDA's Office of Information Technology Service and PRS have evaluated proposals for development of an online website that will integrate street, topographic, and satellite images for the pesticide sensitive crop locator. Once the website is completed, pesticide applicators will be able to access the maps and images via website to search and identify pesticide sensitive crops/commodities that are being grown or produced in areas where they will be making pesticide application.

## **BENEFICIARIES**

This project will benefit Maryland specialty crop producers as well as Maryland's pesticide applicators and consumers. All of the Specialty Crop producers who participate in the project will benefit. The specialty crop producers will benefit by providing information regarding the specific locations where

their crops are grown, specialty crop producers can lessen the risk of pesticide exposure that could cause damage or loss of their crop(s) and food safety issues.

Specialty crop growers produce high-value, small-acreage crops. The 2007 Census of Agriculture indicates 2,781 Maryland farms produced specialty crops including vegetables, potatoes, melons, fruits, nuts, mushrooms, sod, Christmas trees, nursery stock, floriculture crops, aquatic plants, maple syrup and bee colonies. Should one of these farms experience pesticide drift on their crops they could face a reduction in crop yield or loss of the entire crop, due to damage or the presence of unacceptable pesticide residues that may make the crop unmarketable. This project will benefit all of Maryland's multi-commodity specialty crops by providing a means to lessen the risk of food safety issues and damage to specialty crops caused by pesticide drift.

## LESSONS LEARNED

During this project period, the retirement of the Chief Information Officer for MDA's Office of Information Technology Service resulted in several months of delay in the process of the design and development of the online website for the pesticide sensitive crop locator. A new Chief Information officer was recently hired and as stated in item I. G above, the process for the development of the online website is now underway.

## CONTACT PERSON

Dennis Howard  
 Program Manager, Pesticide Regulation Section  
 Telephone: 410-841-5710; Dennis.Howard@Maryland.gov

## ADDITIONAL INFORMATION (The entire brochure can be viewed online at

[http://www.mda.state.md.us/pdf/drift\\_sensitive\\_crops.pdf](http://www.mda.state.md.us/pdf/drift_sensitive_crops.pdf))

original application, although most of the injurious volatility occurs within the first 12 to 24 hours.

### Grapes

Grapes are sensitive to injury by phenoxy herbicides due to the way the plants metabolize it in the leaf tissue. Several studies have found that they can retain the parent compound in the leaf tissue for three weeks or longer.

Grapevines may be injured by phenoxy type herbicides throughout the growing season. However, grapes are most vulnerable during the first half of the growing season when shoot tips are actively growing through the bloom period. 2,4-D is absorbed into the phloem of the plants and is drawn to the actively growing shoot tips and young leaves. This causes the growth to stop temporarily and to be retarded for several weeks. If the effects are not too severe, normal growth will resume either the same year, or the following year. However, severely injured vines may not recover for two years or more.

Flower clusters are also particularly sensitive to herbicide exposure. Contact with phenoxy herbicides during bloom can greatly reduce fruit set and injured vines may have delayed fruit ripening. Severe injury can prevent complete maturity of the fruit and fruits may never mature regardless of the length of the



2,4-D damage to a peach tree.

growing season. Delayed maturity may exist in a vine for one to three years before normal ripening resumes.

With moderate to severe leaf damage, the potential for fruit cluster damage is much higher. Moderately affected clusters set fewer berries while clusters with severe damage may set few or no berries.

A delay or impairment in a vine's ability to develop wood or harden off properly can also occur. This can lead to winter damage because the shoots without proper wood development die over the winter.

The intensity and persistence of the symptoms depends on the level of exposure and age of the plant. Initial symptoms of phenoxy herbicide exposure are twisting and leaf curling, which may occur within hours of exposure.

Leaves that are not fully expanded at the time of exposure may be stunted or distorted. Within a week after exposure, general chlorosis may develop at high exposure levels. Leaves will drop and shoot tips may die, followed by stem dieback. Regrowth may exhibit severe shoot and petiole twisting, leaf cupping, stunting, curling, etching, feathering, roughness of the leaf surface, and fringing of the leaf margins. In addition, veins may be discolored and appear to be joined together and extend to form finger-like projections.

### Avoid Problems

As an applicator you are ultimately responsible for managing drift.

You must assess the vulnerability of neighboring properties and those areas downwind of the application site. Know if there are sensitive crops around the application site.

- Evaluate weather conditions for temperature inversions, wind direction, and wind speed before deciding whether or not to spray.
- Adjust application equipment to reduce the risk of spray drift.
- Use alternative herbicide products that are not prone to vapor drift. Consult the University of Maryland Extension recommendation guides for alternative products.
- Use drift-control additives, or thickeners, to help minimize drift.
- Always read and follow label directions.

A good drift management program uses a combination of all the drift-reducing techniques that are available for making a particular application. Plan ahead to minimize the chances for errors and reduce the potential for drift.

### Maryland's Sensitive Crop Locator Website

The Maryland Department of Agriculture is developing a Sensitive Crop Locator as part of its website, [www.mda.state.md.us](http://www.mda.state.md.us). This tool will assist pesticide applicators in identifying locations where sensitive crops are grown in order to take extra precautions for preventing the potential exposure of these crops to spray drift from neighboring fields.

Pesticide applicators will have access to maps and aerial photographs for searching, identifying and locating sensitive crops adjacent to areas where they intend to spray pesticides.

Maryland Department of Agriculture  
 Pesticide Regulation Section  
 50 Harry S Truman Parkway  
 Annapolis, MD 21402  
 (410)841-0710 FAX: (410)841-2765  
 www.mda.state.md.us

Maria Chialini  
 Director

Anthony G. Brown  
 Lieutenant Governor

Earl F. Hensie  
 Secretary of Agriculture

Mary Ellen Seibing  
 Deputy Secretary

MDA 10.02.10

## Preventing Herbicide Damage To Sensitive Crops



The off target movement of herbicides from the site of application, referred to as drift, may cause injury to desirable plants located in adjacent fields, or property. Drift can injure foliage, shoots, flowers and fruits resulting in reduced yields, economic loss and illegal residues on exposed crops. Controlling pesticide drift is an issue that is important to every pesticide applicator.

Crops such as, grapes, tomatoes, tobacco, fruit trees, ornamentals and other specialty vegetable crops are particularly sensitive to drift especially from the family of herbicides known as the phenoxy herbicides.

The phenoxy herbicides are a type of growth hormone that is applied postemergent and causes broadleaf plants to have a rapid and uncontrolled growth that eventually kills the plant. Herbicides containing 2,4-D (2,4-dichloro-phenoxyacetic acid) which are the most commonly recognized products (Weedone, Crossbow) in this family and also includes products such as:

- 2,4-DB (Butyrol)
- MCPA
- MCPP
- triclopyl (Carlon)

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## FINAL REPORT

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**Project Title: Maryland Wineries Association's Eat•Drink•Go Local: Maryland's Best**

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### PROJECT SUMMARY

“Eat Drink Go Local: Maryland’s Best” was conceived to connect fresh, local agriculture to consumers in the context of meals (food+wine) at public events to reach three goals: 1) to bridge the gap between farms and local chefs, and 2) to show consumers that restaurants can be a great source of local products, and 3) to brand local farms in the minds of consumers and restaurants. We created three events titled Eat•Drink•Go LOCAL that highlighted the pairing of local ingredients—prepared into gourmet dishes—with local wine and other products produced by specialty crops. The buy-local movement is stronger than ever, but there are major holes in the movement, and we felt it was time to begin expanding and introducing the movement to smaller restaurants and caterers, and into small towns not generally at the front of the movement.

*The impetus of this project was to support local growers and to focus much-needed attention on the regional and seasonal nature of Maryland’s specialty crops. This project addressed the problem of branding local farm-based products by connecting local food and local wine, as well as by introducing local farmers to local restaurants. The Maryland Wineries Association supports over 650 acres of vineyards throughout the state, and this project further supported local growers and gave much-needed attention to the regional and seasonal nature of Maryland’s specialty crops.*

### PROJECT APPROACH

We conceptualized a series of farmers’ market-style events to take place in urban settings that introduced farmers and restaurants to each other and to the public. All of the following project activities were accomplished. We conducted exit/follow-up interviews with farmers that participated in the EDGL events to determine their success and satisfaction with the event, the marketing and exposure to restaurants and to the public.

<b>Project Activity</b>	<b>Who</b>	<b>Start</b>	<b>Completion</b>
Event location selection	Regina Reilly	November 2010	December 2010
Co-sponsor identification	Kevin Atticks	December 2010	January 2011
Winter “Eat Drink Go Local: Maryland’s Best” Event	MWA staff	February 2011	February 2011
Evaluation of Winter Event	MWA staff	March 2011	March 2011
Spring “Eat Drink Go Local: Maryland’s Best” Event	MWA staff	April 2011	April 2011
Summer “Eat Drink Go Local: Maryland’s Best”	MWA staff	August 2011	August 2011

Event			
Fall “Eat Drink Go Local: Maryland’s Best” Event	MWA staff	November 2011	November 2011
Conduct Surveys of Specialty Crop Participants	MWA staff	Ongoing	Ongoing

We determined that the events held later in the season were more successful in terms of attendance due to greater lead-time in statewide marketing effort. Excellent relationships have been developed with caterers and restaurants who are willing to source locally. We were able to minimize the cost of the events in year two by requesting vendors at the events to bring their own tents/tables, which they are accustomed to doing at other events.

We have created a long-lasting event in North Beach, where the community and local farmers market have both benefited from the event and the exposure it brings to local agriculture.

Partners included the Maryland Department of Agriculture, the tourism offices of Frederick County, Calvert County and Montgomery County, and the Town of North Beach. All partners provided marketing and community support.

There were non-specialty crop producers in attendance at the EDGL events. In an effort to ensure that grant funds were not used to support their attendance, all non-specialty crop producers were charged a fee to participate in the events.

Fees charged to non-specialty crop vendors were used to support the promotion of the event series, as noted in the budget.

## GOALS AND OUTCOMES ACHIEVED

We feel that the goals of the project were achieved, though more research and practice is required to be able to make recommendations for improvement and potential expansion of the project.

Measurable Outcomes	Result
Host at least 1,000 people at each event for the first year.	COMPLETED / reached at least 1,000 people the first year, EDGL Frederick: 1,200 EDGL North Beach: 1,500 / 1,800 EDGL Silver Spring: 2,500
Sales data of specialty crop to be collected and evaluated on a continual basis.	While we were unable to collect actual sales amounts, we were able to note an increase in sales due to this project’s activities.
Producers will be surveyed in months following events to determine impact.	COMPLETED/ • Farmers have contacted MWA to partake in other Eat•Drink•Go Local events, as well as other MWA-sponsored events due to great exposure. *From year 1 to year 2 at Eat•Drink•Go

	<p>Local North Beach, farmers from year 1 were contacted directly by caterers and restaurants to source crops, rather than connected through the MWA.</p>
<p>Event customers begin recognizing local agriculture by brand/farm through the evaluation of sales data. We'll monitor sales and adjust messaging if necessary based on sales.</p>	<p>COMPLETED / In year two we promoted attending farms by name, named them in pairings throughout all four events.</p> <p>Though some farmers didn't have brand names/promotional materials, the "Maryland's Best" and "MarylandsBest.net" brands were widely promoted, providing a resource to anyone seeking more information about buying local products.</p>
<p>Survey wineries—before and after the events—to find out how many are stocking/serving local products in their tasting rooms.</p>	<p>COMPLETED/ There have been instances of wineries stocked in wine shops in the vicinity of, and due to, the exposure they received from the events. For example:</p> <p>Wineries have begun to host local farmers in their tasting rooms when having events—creating partnerships with restaurants and caterers to cater small events and festivals at their wineries.</p> <p><i>Between 16 and 21 wineries attended each EDGL event—all were presented surveys. Wineries generally liked the event as it was easy for them to attend, and the casual and relaxed atmosphere let them converse with attendees of the event. The general audience were those who were curious about the "go local" movement, which is different than some of the other festivals or events wineries typically attend.</i></p>
<p>We will ask the local county department of tourism sponsor "Eat Drink Go Local: Maryland's Best" events.</p>	<p>COMPLETED / Counties in each location were involved in the promotion/sponsorship of the events.</p>

The primary goal of the grant was to expose local agriculture in the context of food and wine to a new audience of at least 1,000 people per event. This was accomplished in year one, and exceeded in year two. As noted above, we intend to continue the EDGL event concept in North Beach and beyond in coming years.

## **BENEFICIARIES**

Beneficiaries of the “Eat Drink Go Local: Maryland’s Best” program included:

- Grape growers (38)
- Vegetable growers (14)
- Fruit growers (10)
- Specialty crop-based producers (13) – those who use specialty crops in their products (value-added or other)
- Local restaurants/caterers (12)
- Towns: North Beach, Silver Spring, Frederick
- Counties: Calvert, Montgomery, Frederick

*Grape growers marketed their products and businesses. Fruit and Vegetable growers were able to sell their wares, as well as promote the other Farmers Markets they attend year-round and the producers at those markets as well. Local restaurants were able to present samples of dishes they create in their restaurants to a local audience. All benefited financially through on-site sales of their products as well as in residual sales as customers became privy to their brand.*

## **LESSONS LEARNED**

Dealing with food and alcohol licensing for the events was more difficult in certain jurisdictions, so difficult, in fact, that the process led us to choose alternative jurisdictions for future events. The rules would have forced an alteration of the goals and focus of the project, which we were unwilling to do.

Farmers are generally busy and over-committed during the summer months. Many are involved in regular/contracted farmers’ market and are unable to spare staff or time to attend new events. That’s not to say that they were uninterested or unwilling to sell their produce... but it forced us to be flexible before and during events.

Caprikorn Farms, Buttercup Valley Farms and A Better Bakery (all are value-added producers who use local specialty crop ingredients in their products; all paid a fee to attend) attended multiple EDGL's while the majority of specialty crop producer only attended only one for a few reasons, the most pertinent being other farmers markets. Many farmers already have season-long contracts that require them to be present at every farmers market. We were flexible in that we allowed farmers to set up after the event started, or as soon as they were available after completing their other responsibilities. Not only did we *want* to use specialty crop growers who were very local to each event, it was a necessity. In a number of cases, MWA staff “cold-called” farms to find out if they were interested & able to attend the event.

While the farms themselves may not have gained “name recognition” (since some didn’t have any branding, trade dress or promotional materials ready or available) they certainly promoted the availability of local farm-fresh produce to a crowd that did not necessarily realize its availability. This event branded local Maryland farmers and their produce as a whole—not any one farmer or other participant. If branding individual farms is the object of a future project, we will need to focus more attending on the actual creation of branding/promotional materials for the farms.

Caterers are much more equipped to create recipes and dishes for large or variable volumes of customers than are individual restaurants. We also found that caterers are more dynamic when faced with requests for dishes with local products and new producer/vendors.

Having wineries attend the event as “anchors” did, in fact, create a draw. The downside was that the event needed to be covered under an alcohol license. The local jurisdiction issued the license, but often recommended adjustments to the event’s layout that, in some cases, would have altered the nature of the event. We spent a lot of time working with the local jurisdictions’ alcohol licensure boards to ensure that the event maintained our overall concept.

Another lesson learned is that farmers were generally unwilling to share sales information. The most feedback we received was “good event” or “they bought more peaches than plums” or “I’d like to come back next year,” but we were unable to get consistent data to gauge financial or promotional benefit. *In hindsight, providing a free space for farmers with the understanding that they would share sales information for grant purposes would have been helpful. Also, providing a sales sheet to farmers when setting up and retrieving the sheets at the end of the event would have kept the numbers organized.*

We learned that the general public is willing—if not excited—to learn about, sample and adopt local products. We also noted that they were interested in learning details—about the producer, producer’s story, variety of produce and the seasonality of products.

## CONTACT PERSON

Jade Ostner, Event Coordinator  
410-252-9463  
jade@marylandwine.com

## ADDITIONAL INFORMATION

### 1. Sampling of survey questions asked of farmers:

- Have you attended a farmers’ market before?
- What has been your general experience at farmers’ markets?
- Do you find it more or less beneficial to sell your product at a farmers’ market (with many other farmers) vs. at an event focused on food/wine in the context of local agriculture?
- Did you sell more or less produce than expected at this EDGL event?
- Would you attend a future EDGL event?

### 2. See below for photos of the events.





**EAT • DRINK • GO**  
**LOCAL**  
*Frederick • North Beach • Silver Spring*



Join us for an innovative and exciting series of events celebrating the “go local” movement in Maryland. **Eat • Drink • Go LOCAL** brings together farmers, chefs and wine in a casual, open-air farmers’ market feel.

**SATURDAY, JULY 9 • 12 - 6 PM**

Carroll Creek Park • City of Frederick

**SATURDAY, AUGUST 13 • 12 - 6 PM**

The Town of North Beach • Calvert Co.

**SATURDAY, OCTOBER 22 • 12 - 6 PM**

Downtown Silver Spring • Montgomery Co.

**ADMISSION INFORMATION**

*Passes & more information are available on [www.MarylandWine.com](http://www.MarylandWine.com)*

Entry into **Eat • Drink • Go LOCAL** events is free; attendees can shop the market and enjoy chef cooking demonstrations throughout the day. To enjoy even more “local,” purchase a pass!

■ **TASTING PASS \$15** • Patron receives a stemless sampling glass and samples of Maryland wine.

■ **FOOD AND WINE PAIRING PASS \$25** • In addition to a tasting glass and wine samples, this pass brings a 6-bottle wine carrier (for wine & produce!) and pairings of seasonal ingredients with local wines.

marylandlife



WWW.MARYLANDWINE.COM

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## FINAL REPORT

### Promoting Maryland Specialty Crops through Web and Mobile Devices

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#### PROJECT SUMMARY

This project funded improvements to the Maryland's Best web site (<http://marylandsbest.48thave.com/>), including but not limited to: provision of the development of a mobile friendly interface, streamlined online user interface for consumers and site administrators, addition of reporting features, and any other programmatic or design changes for the web site as appropriate. The Maryland's Best web site is the state's portal connecting Maryland consumers and institutional specialty crop buyers with Maryland farmers. Developed originally in 2002, the site has continued to evolve and improve as a searchable database of Maryland farms and food producers. The current version released in 2010 prominently features short Youtube videos of farmers so that consumers can understand how specialty crops are produced in the state. Non-specialty crops are also shown on the web site. This project was necessary because the old Maryland's Best web site was not usable on a smart phone. Through Google Analytics we could see we had thousands of consumers going to the web site using a smart phone and they most likely never returned because of their experience. In addition, updating listings and content on the former site were a very long and involved process that needed to be streamlined for efficiency. Lastly updated mapping features were needed to allow consumers to plan out routes to visit multiple specialty crop farms.

#### PROJECT APPROACH

MDA's approach to the project was to first identify issues and necessary updates for the Maryland's Best web site, to be worked on by a single contractor at a flat rate. MDA then went through a formal proposal process to select an IT Firm and outline the necessary changes to the site in a contract. At that point, the IT firm implemented the work plan to meet MDA's specifications and delivered the site. Maryland's Best web site is currently being hosted by the IT firm while we continue to test the site to make sure it meets all of the requirements and is fully functional.

Project Activity	Timeline	Who
Identify and hire IT firm to manage improvements to functionality of <a href="http://www.marylandsbest.net">www.marylandsbest.net</a>	September 2013	MDA
IT firm meet with MDA staff to develop work plan for project	September – October 2013	MDA/IT Firm
Implement work plan	October-December 2013	MDA/IT firm
Measure results to website by using Google Analytics	Ongoing	MDA
Review results and write report	December 2013	MDA

#### GOALS AND OUTCOMES ACHIEVED

The desired outcomes that were achieved for the new Maryland's Best web site include:

- Created a WordPress Maryland's Best web site with a responsive theme that functions well in all modern actively supported desktop and touch sensitive mobile device browsers. Note that the web site is visually appealing and conforms to modern design standards but differs in appearance from the existing Maryland's Best web site.
- Imported all Recipes & Tips and News & Events content into the native WordPress post format.
- Imported all Producer data into the new web site such that it can be searched and viewed by site visitors. Producers with an email address will be able to login to make updates to their record. Producers will be assigned an auto generated password and will use WordPress' native "Get New Password" utility the first time they login to the new web site.
- Used the native WordPress registration and user management system to allow new Producers to register for an account. Upon registration an MDA administrator will be notified such that he/she can either approve or delete the newly registered user via the site's WordPress administrative control panel. Once approved new Producers will be granted administrative access to manage their record.
- Replaced current search form to improve usability while still allowing users to search by key word, city & county, category and proximity to the user's current location.
- Developed a 'Favorites List' capability for registered users so that they can save entries as well as display all of them on a single map.
- Improved process of registered user entry/update capabilities through web site such that web site submissions generate an administrator email alert notifying the administrator of which information the producer has updated.
- Developed improved mapping function such that web site visitors (including those that may not register) can view multiple listings on one map.
- Provided comprehensive tracking such that every page view and search made by site visitors is recorded by the site's Google Analytics account, in order that an administrator has the ability to perform detailed analysis of visitor activity and track and record frequency of pre-defined specialty crop search words and actions during specific timeframes.
- Implemented a Featured Item archive (separate from News & Events tab) that is searchable by site visitors with comprehensive Google Analytics tracking.
- Added Facebook & Twitter feeds/links to user profiles.
- Providing knowledge transfer and guidance to MDA IT and Marketing staff.
- Providing training and documentation to MDA Marketing staff.

The main goal of completing the web site has been reached. The web site will go live to the public in the beginning of 2014 and we will then implement our plan to maintain or increase consumer's searching for specialty crops by 2%. This will be done as follows:

**Baseline** After the web site updates, during 6 months of the 2014 Maryland growing season we will be tracking the number of consumers searching for specialty crop categories (ie. fruits, vegetables) and will determine 10 to 20 specialty crop search words that we will track as well.

**Measuring Results** During the same 6 month period of 2015, we will record the same specialty crop categories and key words and then compare them to the previous year. This will help us to determine if there has been an increase in consumers searching and looking to purchase specialty crops through the web site.

The bulk of the specialty crop growing season in Maryland start in May and the reporting period for the above metrics should reflect this. The reporting period will be from May until October.

### **BENEFICIARIES**

820 specialty crop producers in Maryland directly benefited through the provision of an improved forum for them to connect with consumers. This includes fruit and vegetable producers, Maryland wine, cut flower growers, and nursery growers. It will help specialty crop farmers who market their products directly to consumers through farm stands, CSAs, wineries and farmers markets via improved access to their listings on mobile devices.

In kind matching funds from Stone Slade from MDA and Hayley Andrews from MD Department of Information Technology were used to offset the costs spent on non-specialty crop listings on the new web site. This amount was equal to \$6,000.

### **LESSONS LEARNED**

With the fast pace that technology is changing, it is important to keep current in order to best meet the consumer's needs. By not having a mobile site we were losing more than 7,000 potential specialty crop sales from consumers attempting to access the site through their smart phone. We will now be able to connect these smart phone users with specialty crop producers in the state.

In order to keep up with the current specialty crop market, it is important to be able to alter promotions in a timely fashion. While using the former web site we needed to change a marketing campaign from pumpkins to apples, due to a surplus in apples. While we were eventually able to make the change, it was a longer process than desired, as the IT staff that could update the site was out of the office. With the ability to now update featured content on the new web site internally, we are able to quickly change specialty crop promotions in order to meet changes in the market.

Due to staffing issues in MDA's IT Department, the timeline for this project was delayed.

Expected measurable outcomes have not been reached because we stated that after the web site has been updated, we will start to track specialty crop searches during the growing season. This does not begin in Maryland until May and we will track searches from May to October in 2014 and 2015.

### **CONTACT INFORMATION**

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## ADDITIONAL INFORMATION

### Homepage of site featuring Christmas Trees



### Specialty crop mapping capabilities



### Specialty crop farm listing information

