



WEST VIRGINIA DEPARTMENT OF
AGRICULTURE

SPECIALTY CROP BLOCK GRANT
PROGRAM

FINAL REPORT

12-25-B-0958

PROJECT SUMMARY

It has become apparent that small farmers are looking to diversify their farming applications and see small fruit production as a niche market that they can bring to their existing enterprise. Through our interactions, we have also witnessed an enormous response from individuals who would simply like to incorporate a small fruit garden into their backyard setting.

The initial purpose of this project was to provide potential small fruit and tree fruit growers with the knowledge and skill set to successfully produce a marketable commodity. By holding workshops and developing hands-on educational learning opportunities for the participants our hopes were to increase their knowledge base of other regional farmers and state and federal agency personnel. In providing the ability for a few to gain the needed skills and know-how to produce small fruits and tree fruits within the state, the hope was that many others would also benefit and begin using small fruit production as way to diversify their overall farm profitability.

Throughout this grant program we were continually surprised by the level of interest in small fruit production around the local area. Since our target for this pilot program was local- with emphasis on the central portion of the state- our expectations were that we would have more interest on the side of the “backyard gardener” rather than small acreage production. As the program evolved, we were surprised to find that many of our participants were already working on incorporating a small scale orchard operation on their land. Secondly- many of the individuals were doing this as a standalone venture, rather than as a part of an already established farming operation as we had anticipated.

We were also pleasantly surprised that we had numerous end product producers involved who were looking not only to produce their own small fruits, but to then take these and turn them into jams/jellies as well as wine. This has taken the middle man out of the market in essence, which at times is one of the largest hurdles we face in agriculture. As we work with local farmers we are often asked “where do I market my perishable commodity” or “can you help me establish a market for what I produce”. This was a refreshing idea that we had individuals who had already established a market for what they wanted to produce within themselves.

Finally, this workshop series helped to reinforce what we have always preached on the side of Extension- people learn by doing. Throughout the series we spoke about the 3 Demonstrations Sites that were being established to help with the idea of hands-on training experiences where the participants would be able to learn to prune the different crops through actually being involved in the

process. The participants this year were sad that our sites were not developed to that point as of yet, but we reassured them that they would be in the loop when we started to conduct the first round of workshops that incorporated the hands-on interactions. As the series concluded, we also mentioned the idea of conducting field trips to local orchards throughout the state that were established and open to the idea of other small fruit producers visiting to see how they conducted business and managed their facilities. Numerous people are interested in this and we plan on conducting a trip or two this fall to help accommodate this request.

PROJECT APPROACH

The Small Fruit/Tree Fruit Workshop Series and Demonstration Project can be divided into two distinct portions- the Small Fruit Demonstration Site Implementation and the 5 part Small Fruit Workshop Series:

Implementation of Small Fruit Demonstration Sites

The implementation Phase of the Small Fruit Demonstration Sites began in 2010 after a lengthy search for sites that would meet the needs of the program itself as well as provide for the sustainability of the demonstration sites for years to come. As this process evolved, the decision was made to implement the demonstration sites at the following locations:

- Pumpkin Park in Milton, WV- Cabell County
- Ripley High School in Ripley, WV- Jackson County
- Big Ugly Community Center in Big Ugly, WV- county line of Lincoln, Logan and Boone counties

The Implementation of Small Fruit Demo Site at Pumpkin Park

Throughout the course of the past 3 years, the Ag and Natural Resources Program Area of West Virginia State University Extension Service have been building a relationship with the individuals who operate the Pumpkin Park facility in Milton, WV. This site is home to the WV Pumpkin Festival and has a crew of workers who are invested in the property as well as the idea of making this location a year round destination for local school children as well as all the residents of West Virginia. As we looked to develop the Small Fruit Demonstration Sites, one of the things we had to keep in mind was the sustainability of the project at the chosen locations. This site provides a wonderful avenue for outreach to the local schools and the community as well as the overlap with numerous volunteer groups to help keep the demonstration site maintained and utilized for educational workshops as well as harvest opportunities. The location at Pumpkin Park also provides meeting rooms for workshop presentations in conjunction with the outdoor accessibility to the demonstration site for hands-on instruction. As this site has been developed over the course of the past few years it became apparent that deer and other wild

animal grazing was going to be an issue. We have been able to go through and replace damaged or destroyed crops in the past, but as this grant comes to a close we had to take other actions. As we went over the grant budget, we were able to look at the resources that we as an Program Area have at our disposal and in doing so saw that we could meet most of the crop irrigation needs through what we had to offer from other program efforts, and in turn utilized this savings to incorporate partial payment for a fence to contain this Demonstration Site. The remainder of the fence was purchased through matching discretionary funds that have been generated through workshops offered by the ANR Program Area in the past. This way we hope to ensure that the replacement plant material incorporated into the site this spring will be the same plant material that we will utilize for demonstrations with future workshop participants.

Implementation of Small Fruit Demo Site at Ripley High School

In 2010 the ANR Program Area began working with Ripley High School's Agricultural Education Program through a Parkersburg Area Community Foundation Grant. At this point we incorporated hydroponic and aeroponic production systems into their greenhouse with the idea of laying the groundwork for developing a Farm to School Network where the high school youth would then be able to produce fruits and vegetables to be utilized in the local school cafeterias. With this already in the works with the High School, it was only fitting to develop a Small Fruit Demonstration Site on the campus in an area directly behind the greenhouse facility. The site was implemented with the help of a number of high school students who were actively participating in the Agricultural Education Program and it has been maintained by them as well as the program instructor ever since. Due to problems with deer in the area as well, there has been some need for plant material to be replaced and the school is working to fence in the location soon to keep the deer from damaging the plants in the future. Not only does this site allow the students to get hands-on interaction with the small fruits, but it also serves as a wonderful location to hold workshops. The Agricultural Education Classrooms have been made available for the ANR Program Area for workshops in the past and we intend to conduct a workshop series at this location as soon as the plant material matures. This has been an exciting project for the students as well as the Ag Education teachers involved and a site that will be maintained and utilized for many years to come.

Implementation of Small Fruit Demo site at Big Ugly Community Center

In 2011 the ANR Program area began directly working with the Step by Step Program and the Americorp Vistas that this organization oversees. Our organizations had been overlapping with programs unofficially for many years on the side of Community Gardens and the Junior Master Gardener Program, but this had been more by chance rather than through the proper channels. Once both organizations came in contact, it made sense for the Americorp Vistas in the local area to work together with the ANR Program Area on ventures such as the implementation of a Small Fruit Demonstration Site at the Big Ugly Community Center. Located in a rural location in Big Ugly, WV this community center has looked to develop community gardens for the local

residents and has also worked to offer the Junior Master Gardener Program to the area youth. Through their commitment, the needs of the local population are slowly being met, and this serves as a driving force behind the implementation of this demonstration site at this location. As the community center becomes more of the location for education and hands-on learning within the area, the incorporation of this demonstration site becomes more pertinent. The role of the WVSU Extension Service is to “serve the underserved populations within the state of WV” and the residents of this small town help us to fulfill this mission. We are in the midst of implementing this site with the help of the Americorp Vistas assigned to this location. As this site becomes more developed, the hope is that we will be able to conduct workshop series out of the facilities as well as provide hands on instruction out in the established demonstration site.

Conducted 5 Part Small Fruit Workshop Series out of Pumpkin Park

One of the most enjoyable portions of this grant allocation was the delivery of a 5 part Small Fruit Workshop Series held at Pumpkin Park in Milton, WV. Though you can never anticipate how a topic will be received, we were pleasantly surprised to the response to this workshop series. In the initial proposal I had estimated that we would have approximately 30 people attend each of the 5 workshops totaling 150 participants for the entire series. By the results you will see below, we had almost surpassed that estimate by the time we completed the second workshop in the series.

January 31, 2012- Blackberry/Raspberry Production, presented by Scott Byars

Our first workshop was conducted on January 31st by Scott Byars, the Program Leader for Ag and Natural Resources for WV State University Extension Service. We had an incredible response from the paid advertisements in both the Herald Dispatch and the Cabell Standard, resulting in 66 program participants. Of the 66 participants, we received 59 evaluation responses illustrating that at least 40 of the participants were planning to plant either blackberries or raspberries this growing season, ranging in quantities from less than 5 to over 20.

February 21, 2012- Strawberry Production- presented by Dr. Barbara Liedl

Our second workshop was conducted on February 21st by Dr. Barbara Liedl, Research Scientist at the WVSU Agricultural and Environmental Research Station. Once again the advertisements in both the Herald Dispatch and the Cabell Standard paid off, resulting in 58 program participants. Of the 58 participants, we received 38 evaluation responses illustrating that at least 7 of the participants were planning to plant strawberries this growing season, ranging in quantities from 16 to over 20.

March 6, 2012- Blueberry Production- presented by Melissa Stewart

Our third workshop was conducted on March 6th by Melissa Stewart, the Specialist for Ag and Natural Resources for WV State University Extension Service. Again the advertisements in both the Herald Dispatch and the Cabell Standard paid off, resulting in 57 program participants. Of the 57 participants, we received 50 evaluation responses illustrating that at least 36 of the participants

were planning to plant blueberries this growing season, ranging in quantities less than 5 up to 20.

March 27, 2012- Grape Production- presented by Scott Byars

The fourth workshop was conducted on March 27th by Scott Byars, the Program Leader for Ag and Natural Resources for WV State University Extension Service. As we had seen in the past, the advertisements in both the Herald Dispatch and the Cabell Standard resulted in 58 program participants. Of the 58 participants, we received 48 evaluation responses illustrating that at least 31 of the participants were planning to plant grapes this growing season, ranging in quantities from less than 5 to over 20.

April 3, 2012- Fruit Tree Production- presented by Brad Cochran

Our fifth and final workshop was conducted on April 3rd by Brad Cochran, the Program Assistant for Ag and Natural Resources for WV State University Extension Service. Again the advertisements in both the Herald Dispatch and the Cabell Standard paid off, resulting in 68 program participants. Of the 68 participants, we received 59 evaluation responses illustrating that at least 37 of the participants were planning to plant some variation of fruit trees this growing season, ranging in quantities less than 5 up to over 20.

Overall Program Responses

Throughout the program our goal was to illicit responses from the program participants to the value they place on such a program effort. This is best captured through some of what they shared on their program evaluations- which have been tallied and attached in a spreadsheet form with this final report.

- Very organized presentation. Extremely informative and easy to understand material covered.
- Would love to see these types of workshops continue-covering other fruits and vegetables.
- The info is super. Thanks so much for getting the grant in order to share knowledge
- This was excellent. Enjoyed the presenter very much
- The info presented was extremely important since I have never planted blueberries before
- Very beneficial and interesting. Looking forward to the next session
- Follow-up message in the fall to see how well attendees did
- I really learned a lot! I am impressed on learning more about grapes and vineyards. I highly recommend others for these seminars.
- Classes are great. Really Appreciate these workshops. It is wonderful to have these workshops available to save time, cost, and work to learn and do it right
- Very Informative. Thank You. Pruning Demo was a big help

- Well Presented. Really enjoyed the classes and thank you ALL for a job well done!
- Keep the workshops coming!
- I learned a great deal! Interested in any classes you have
- Thank you for this service of workshops!!!

Role of Project Partners

Throughout this project, the partners that we have worked with have been extremely helpful as well as grateful to be included in this program effort. Not only have each of the Demonstration Sites offered up land for the interaction, but they have been more than willing to come and help with the implementation and take on many of the management duties. In our collaboration with the entities at Pumpkin Park for the Workshop Series, these individuals were more than willing to come early to let our crew in to set up, or to even stay late to accommodate our schedules. They have worked diligently to ensure that we always had what we needed to conduct the workshops and meet the needs of the large group who attended. Finally, the WV Department of Ag worked closely with us as we developed the workshop series and answered our questions as they arose due to the growing needs of the series itself. We appreciated their time and attention as we tried to ensure that we were putting the best face forward for our institution as well as the WV Department of Agriculture.

GOALS AND OUTCOMES ACHIEVED

The goals set forth by this grant proposal were as follows:

Goal 1: At least 150 individuals will participate in the workshop series

Goal 2: At least 40 of these new West Virginia small fruit and tree fruit growers will develop skills and knowledge to implement a small fruit production scenario

Goal 3: At least 5 of these new West Virginia small fruit and tree fruit producers will further their crop production into a marketable business

The activities that were conducted in order to achieve these goals would be the coordination of the 5 part Small Fruit Workshop Series and the workshops themselves. The workshops were as follows:

January 31, 2012- Blackberry/Raspberry Production, presented by Scott Byars

- **66 participants**

February 21, 2012- Strawberry Production- presented by Dr. Barbara Liedl

- **58 participants**

March 6, 2012- Blueberry Production- presented by Melissa Stewart

- **57 participants**

March 27, 2012- Grape Production- presented by Scott Byars

- 58 participants

April 3, 2012- Fruit Tree Production- presented by Brad Cochran

- 68 participants

Goal 1

As indicated above, **Goal 1** of this project was that at least 150 individuals would participate in the overall workshops series, and the numbers above illustrate that we more than **doubled** this goal, by reaching a total of **307** workshop participants.

Goal 2

Goal 2 for the project was that at least 40 of these new West Virginia small fruit and tree fruit growers will develop skills and knowledge to implement a small fruit production scenario. Through responses we received on our evaluations after each workshop presentations, we can illustrate the following:

Blackberry/Raspberry Production

- 40 participants plan to implement less than 5 to over 20 plants this growing season

Strawberry Production

- 7 participants plan to implement between 16 to over 20 plants this growing season

Blueberry Production

- 36 participants plan to implement less than 5 up to 20 plants this growing season

Grape Production

- 31 participants plan to implement less than 5 to over 20 plants this growing season

Fruit Tree Production

- 37 participants plan to implement less than 5 to over 20 plants this growing season

Goal 3

Goal 3 for this project was that at least 5 of these new West Virginia small fruit and tree fruit producers will further their crop production into a marketable business. This goal will be followed over the next few years in order to better quantify how the participants take the information gained from the workshop series and implement it into a profitable business. From the interactions during the series itself, it is very promising that we will see numerous individuals take the knowledge gained and utilize it to either improve the quality of the small fruits that are already producing or to develop an entirely new enterprise based on their workshop interactions. For this information, we will have to keep you posted.

BENEFICIARIES

As stated in the initial grant proposal, the intended beneficiaries for this project were displaced tobacco growers, minority farmers, women, homeowners, and limited resource landowners. While all of these entities were represented throughout the interaction with this project, other groups and operations were also involved that we did not anticipate.

During this project, on the side of the Small Fruit Demonstration Sites, there were several groups that benefited from this interaction that we had overlooked. Through the demonstration sites, groups that benefited were:

- Pumpkin Park Facility- Parks and Recreational Land
- Ripley High School- Department of Education and the students involved in the Ag Education Program at the High School
- Step By Step Program/Americorp Vista Program- general public who interacts at the Big Ugly Community Center

In regards to the Workshop Series, though all of the intended beneficiaries were present, we were pleasantly surprised to find entities from other areas interested in the information presented. Some of these were:

- Local Bee Keeping organizations
- End Product Producers of Jams, Jellies and Baked Goods
- Local Wine Makers
- Current owners of Small Fruit Production Orchards
- Farmers Market Coordinators
- Local Foods Coordinators

LESSONS LEARNED

As we worked toward completion of this project we learned many lessons- some expected, others not as well anticipated. The first lesson learned was that even the best laid out plan can have its flaws. Within the first year of the grant, we had numerous set backs on the side of funding as well as opportunities for demonstration site locations. As we struggled with both sides, we determined that no matter what we wanted to see happen, we had to be flexible and let the program take its course. After the first year, the program began to level out and we were able to get our footing and seek a different perspective on how this program would be implemented as well as sustained year after year. With this new outlook, we were successful in the development of relationships with entities who valued what we had to offer and had the same vision of what the demonstration sites could bring to their location, as well as the benefits of overlapping with ourselves on the side of the Extension Service. It was difficult to not become frustrated by the process- but in the end, we are proud of the

partnerships that have been forged and the opportunities that the implementation of this program will bring for many years to come.

Our second surprise came from the outpouring of interest in the realm of small fruit production. As we had learned from the initial workshop series back in early 2009- there was an interest, but we had no idea to what extent. We had simply scratched the surface on this topic and are now glad that we did. Initially when writing the grant I had anticipated that we would see roughly 30 people per workshop offered, and had used this to gauge the amount of resources that I would need to provide to each of the participants on the workshops topics. Once we advertized the workshop series, it became abundantly clear that we had grossly underestimated the response. With this said I quickly had to reassess the grant budget and ask to be able to reappropriate the money within the budget to ensure that everyone who attended the workshops would be able to have the take home reference materials. Looking back, the lesson learned is that it may be better to overestimate rather than under estimate, but in the end, it all balanced out.

Timing is always an issue when it comes to agricultural practices, and our third misstep came with the implementation of the third demonstration site. The plan was to incorporate this site within Kanawha County, within close proximity to campus in order to give us another teaching resource within a short distance of our home office. As we started into this process of negotiating for a small portion of land close by, it became more and more difficult and in the end, we had to let go of this ideal and look for another location that would benefit a local community. Once this site was determined we were already passed the timeframe to implement the plant material for that season and had to wait until this spring to order and break ground. At this point, the third demonstration site is being implemented within the next few weeks at the Big Ugly Community Center- which sits where Lincoln, Logan and Boone Counties come together.

Unexpectedly, we found that the participants within this first workshop series were very interested in us following their progress over the next few years as they implement that information that they have learned from the series into their small fruit applications. With this said, this project does not end here, but in a way, it has just begun. We plan on gladly following the progression of these enthusiastic small fruit farmers and will share with the Department of Ag as we receive pictures and updates from both their successes and possible failures over the years to come.

Finally, the idea that “you can’t please everybody” comes to mind. As we worked through the process of registration for the 5 part Small Fruit Workshop Series, it was clear that we had created a monster. The first workshop on Blackberry/Raspberry Production opened our eyes to a whole new world of complaints. As we tallied the evaluations we received back from the first workshop, it became clear that the program itself was well received, but the level of expectations for a FREE to the public workshop series well exceeded what we had anticipated. Not only were there complaints that “the room was too cold”, but we also had remarks that we “should have had coffee and refreshments provided”. Sadly- we had not expected this type of backlash, though the remarks

about the program were stellar- these still seemed to take the air out of our sails in regards to the overall participant experience. We took these comments to heart, moved the workshop to a more accommodating room space within the Pumpkin Park facility, turned the heat on early, as well as provided snacks for an additional fee. The remaining workshops were still met with complaints and expectations, but as we got further into the series, these seemed to level off and the comments on the evaluations became more about the program at hand than the facilities and refreshment accommodations. I guess you never know what to expect when it comes to the general public and it is best to expect the unexpected.

CONTACT PERSON

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ADDITIONAL INFORMATION

Copies of the advertisements that were placed in the Herald Dispatch and the Cabell Standard, a copy of a card that was handed out with cups of fruit on WVSU Day at the Legislature promoting the Workshop Series, as well as scanned copies of a few of the news articles that were in the local papers as well as broadcast online.

Pictured Below: copy of workshop series announcement

Small Fruits Workshop Series: Grapes

Join us for a FREE workshop series to learn how to grow your own fresh fruit, even in your own backyard. The information is pertinent to any grower looking to grow his or her own small fruits. Workshops are made possible by a Specialty Crop Block Grant from the West Virginia Department of Agriculture.

Schedule:

January 31 Blackberries and Raspberries

February 21 Strawberries

March 6 Blueberries

March 27 Grapes

April 3 Fruit Trees

Workshops are held from 10-12 in the 4-H building at the Milton Pumpkin Park. While there is no cost to attend, please register by calling Jeanie Sutphin at 304-204-4305 or e-mailing extension@wvstateu.edu.

Pictured Below: article from “The Herald- Dispatch” about workshop series

Fruits of their labor

February 01, 2012 @ 12:00 AM
The Herald-Dispatch

MILTON — Budding gardeners looking to take root in a new hobby got the chance to get the small-time gardening training they needed Tuesday evening.

The West Virginia State University Extension Service launched its five-part workshop series about small fruit production for homeowners and small farms Tuesday at West Virginia Pumpkin Park in Milton.

WVSU Extension Service and WVSU Agricultural and Environmental Research staff members are providing tips and tricks on how to successfully grow small fruits in the area.

While Tuesday's workshop focused on blackberries and raspberries, future workshops will focus on cultivating other fruits including strawberries on Tuesday, Feb. 21; blueberries on Tuesday, March 6; grapes on Tuesday, March 27; and fruit trees on Tuesday, April 3.

For more information about upcoming workshops contact Jeanie Sutphin by calling 304-204-4305.



Lori Wolfe/The Herald-Dispatch

Scott Byers, program leader for agriculture and natural resources for West Virginia State University, gives tips on growing blackberries and raspberries

during the Small Fruits Workshop on Tuesday, Jan. 31, 2012, at West Virginia Pumpkin Park in Milton. The workshop was hosted by the West Virginia State University Extension Service.



Lori Wolfe/The Herald-Dispatch

Nearly 70 people attend the Small Fruits Workshop on Tuesday, Jan. 31, 2012, at West Virginia Pumpkin Park in Milton. The workshop, focusing on blackberries and raspberries, was hosted by the West Virginia State University Extension Service.



Lori Wolfe/The Herald-Dispatch

Several people attend the Small Fruits Workshop on Tuesday, Jan. 31, 2012, at West Virginia Pumpkin Park in Milton. The workshop, focusing on blackberries and raspberries, was hosted by the West Virginia State University Extension Service.

Thorny vs. Thornless Blackberry Production Project

WVSU Extension Service- Scott Byars

Award Amount: \$10,000.00

1. What was the issue, problem, interest of need for your project?

West Virginia is comprised of many small hillside farms that are very fragmented with even smaller tracts of tillable land. Knowing this we began to survey the natural resources across many acres of the state and very quickly found that brambles are growing everywhere and are quickly becoming a dastardly weed to control. Having several years experience growing brambles I decided to introduce cultivated blackberry production to the citizens across the state.

- a) The goal of this grant proposal was to increase production of fresh cultivated Blackberries in West Virginia. The commercial production of blackberries is an opportunity that could increase the profitability of many socially disadvantaged family-owned farming operations in West Virginia. **The five demonstration and research plots planted by the growers of small-scale cultivated blackberry production in West Virginia will increase the knowledge base of all West Virginians.**
- b) Beginning growers will only try to earn a modest amount of supplemental income from the sale of blackberries, until they gain experience in both production and marketing of this product. **The landowners/growers have learned a great deal about growing cultivated varieties of blackberries from developing a well-managed plot that is 20 feet wide and 100 feet long.**

There is also the struggle with farmers participating in the assistive services of the USDA agricultural service centers like NRCS and FSA and the Specialty crop support programs. There is also a lack of familiarity by the state and federal agency staff of how to produce cultivated blackberries. Understanding that both of these audiences needed training in blackberry production necessitated this project.

There was also interest in having some applied research occur within the project, therefore, I compared a thorny variety (Shawnee) vs. a thorn-less variety (Apache) to determine yield and taste differences.

2. How did you approach each of the issues or problem described in Question 1? Match your project activities to the issues, problems and/or interests listed above.

- a) Notice went out through various media forms and as a result over 90 individuals from across the state completed a participation application. These applications were narrowed down to 30 applications and site visits were made to each of the 30 semifinalists. Then the most

difficult task was to select five grower participants. Each of the five growers was provided with an educational workshop to explain the project and bring them all together as a group to ask questions and to get supplies to begin the project. On-farm visits were provided and continue to be provided for each of the growers to answer any questions that they may have. Due to fund release the project started six months later than proposed. The first planting was greeted with an abundance of rainfall and over 50% of the brambles were lost, replacements were received and replanted. The second planting only suffered a 15% mortality. And again, replacement plants were purchased and planted in order to have each grower cultivating the same number of canes.

- b) 2012 will be the first year for a harvest from the berry plots and there is no data available on yield or taste testing.

The issue of training being provided to state and federal agency staff and the general public through on site field day workshops was altered due to the later establishment of the berry plots with each grower. The alternative was providing lecture style classroom workshops across the state. These proved to be very successful. Four workshops were held and a total of 149 participants attended, surpassing the goal of 30 participants quite a bit. The idea of on-farm field day workshops will still occur beyond the grant completion dates because the growers are very eager to showcase their efforts and expand the berry growing business in West Virginia.

3. *What were the goals for the project?*

- a) At least twenty landowners will establish blackberry production as a new farm enterprise by 2014.

Four educational workshops were delivered to the public on the topic of Blackberry production. One On January 31, 2012 at Pumpkin Park (74 participants); another on March 8, 2012 at the Joe Harless Community Center (25 participants); another on March 24, 2012 at Putnam County Park community center (27 participants) and the final workshop on May 18, 2012 at the Huntington VA Hospital complex (23 participants).

A grand total of 149 individuals attended the workshops to learn about blackberry production.

A total of 47 individuals were planting blackberries on their properties this 2012 growing season.

Seven landowners are planning to establish blackberries as an enterprise on their farms during this growing season. Since this outcome measure was long term I will estimate that by

multiplying the seven growers adding blackberries to their enterprise this year, by 2014 we can expect 21 growers with blackberry production on their respective farms.

- b) At least five of these new West Virginia blackberry growers will develop skills and knowledge in production and direct marketing of fresh local blackberries by 2013.

149 individuals have been taught blackberry production in central and southern West Virginia. Six growers have been taught direct marketing skills to date and another group will be trained in 2013.

- c) At least thirty state and federal agency personnel who provide information and support to West Virginia farmers will become familiar with cultural practices, financial management and marketing of cultivated blackberries.

To date 15 state and federal agency personnel who provide information and support to West Virginia farmers have been made familiar with cultural practices, financial management and marketing of cultivated blackberries. The goal for 2013 is to outreach to another group of state and federal agency personnel potentially through the on-farm field day workshops. I have been told that they prefer outdoor educational venues and want the hands-on component, as do most learners.

4) For each goal listed in #3, provide the following:

- a) At least twenty landowners will establish blackberry production as a new farm enterprise by 2014.
 - 1) Due to this goal being a long term outcome I can only capture 12 growers that have established blackberry production as a new farm enterprise for 2012. Over the weekend in the local grocery store I had a new individual to tell me that they have just planted 200 brambles on their farm. Because of these types of interactions it is my experience that many other individuals will be doing the same thing. The fact remains that 47 people have planted berries on their land and we suggested that individual's trial growing berries with just a few plants before taking on growing 100-200 plants. This tells me that the students listened to my advice and are starting small. There were also just as many participants planning to grow berries next year once they had their growing sites prepared. The lesson learned with this project

is to add an additional six months to the timeline to allow for release of funds and our own internal development of a said operational budget. These two factors alone put this project behind almost a year because of the limited plant availability season. I also believe that had we been able to hold the workshops on site with the demo garden plots the attendance would have been even larger.

- 2) The long term outcome measure for the project was to add at least twenty landowners with blackberry production as a new farm enterprise by 2014. There are 12 growers that are now producing blackberries as a result of this grant funding. The core five growers are now willing to invite the public onto their properties to showcase their berry plots. The plan is to have annual field day workshops at various locations to introduce potential new growers to berry production. The grant funding and activities are solely responsible for our staff and the farmer/Growers to have achieved the goals of this project.
- 3) Attached are workshop announcements and photos.
 - b) At least five of these new West Virginia blackberry growers will develop skills and knowledge in production and direct marketing of fresh local blackberries by 2013.
- 4) To date there are six growers that are actively developing the skills and knowledge in the production and direct marketing of blackberries. Two of the growers bought into the project so much that they went out and bought an additional 75 plants each from their own bank accounts and literally doubled their berry plots from the beginning. 2012 will be the first harvest for the growers to fully understand the direct marketing of their respective berry crop into local markets.
- 5) The long term outcome measure for the project was to add five new berry growers by 2013. There are 6 growers that are now producing blackberries as a result of this grant funding. The grant funding and activities are solely responsible for our staff and the farmer/Growers to have achieved the goals of this project.
- 6) Attached are workshop announcements and photos.

WVSU Extension Service hosting workshop on blackberry production in Hurricane meet overwhelming demand



to

Contact Info

Contact Name:
WVSU Extension Service
Contact Phone:
304.204.4319
Contact E-mail:
extension@wvstateu.edu

WVSU Extension Service hosting workshop on blackberry production

INSTITUTE, WV – West Virginia State University Extension Service is hosting a workshop on backyard blackberry production at the Putnam County Valley Park Community Center on Saturday, February 25, from 9-11 a.m.

“We want participants to learn how easy it is to grow their own berries,” says Scott Byars, Program Leader for Agriculture & Natural Resources, “and maybe consider growing and selling the berries within their community.”

The workshop follows a series of successful small fruit production sessions that have been held throughout the region since January. Staff members have also ventured into southern West Virginia to offer similar programs in Mingo County and others.

“We started offering these small fruit workshops in Milton in January and saw a tremendous response,” says Byars. “We’re glad to be able to bring the topic into the Hurricane area.”

The workshop is free to attend. Registration is required by contacting the WVSU Extension Service offices at 304-204-4319 or via e-mail at extension@wvstateu.edu.

The workshop is made possible by a Specialty Crop Block Grant from the West Virginia Department of Agriculture.

-WVSU-

- c) At least thirty state and federal agency personnel who provide information and support to West Virginia farmers will become familiar with cultural practices, financial management and marketing of cultivated blackberries.
- 7) To date 15 state and federal agency personnel who provide information and support to West Virginia farmers have been made familiar with cultural practices, financial management and marketing of cultivated blackberries. This goal may have been lofty to achieve within the timeline set; however, this has given us the opportunity to set a new goal for 2013 of outreaching to another group of state and federal agency personnel potentially through the on-farm field day workshops.
- 8) The long term outcome measure for the project was to make at least 30 state and federal agency personnel familiar with cultural practices, financial management and marketing of cultivated blackberries. The 15 individuals that have become familiar with producing blackberries have done so as a direct result of this grant funding.

Beneficiaries of this program include the participant growers representing Kanawha, Jackson, Lincoln, Monroe and Wood counties of West Virginia. The blackberry consumers are also benefactors and they include anyone who purchases directly from the growers or that buys from local restaurants or wholesalers. WVSU Extension Service also benefits from this project because without the grant funding this project may have never materialized as an outreach effort to the residents of West Virginia.

Contact person: Scott Byars, 1-304-382-8806, sbyars@wvstateu.edu

Morgan Specialty Crop Inventory and Expansion
Potomac Headwaters Resource Conservation & Development
(RC&D) Region, Inc.

Amount of Grant: **\$4,770.00**

1. The primary intent of the project was to incrementally improve the local economy linked to food production through an increase in the purchase and consumption of locally grown produce in Morgan County, WV. A growing demand by area businesses/industrial kitchens for fresh produce presented an important opportunity for local farmers. A need to inventory the existing supply and demand for local grown produce, and develop a process to facilitate the purchase/sale of locally grown specialty crops was paramount.
2. The approach was to (1) develop an inventory of current local supply and demand for specialty crops, (2) catalog perceived barriers of producers and consumers regarding purchases of locally produced products, (3) identify and detail opportunities for expansion of the specialty crop industry and (4) analyze local information to determine issues and actions to be undertaken by the Morgan County Economic Development Authority (EDA) to assist expansion and development of the agricultural economy in the county.

A questionnaire was developed in cooperation with agricultural specialists to inventory current supply by surveying and interviewing area farmers/growers. Similarly, existing and potential consumers were surveyed and interviewed.

Consumer barriers were found to be consistency in type of produce, quality of produce, year-round availability of produce, accessibility (i.e. delivery, ordering, etc.). The barriers for producers for growing and selling to area businesses were determined to be marketing, delivery, knowledge of demand for specific crops, age of farmer, equipment availability, accessibility to affordable cropland, and expenses like insurance and taxes.

3. The goal of the project was to enhance competitiveness of specialty crops by increasing production and utilization in Morgan County for the purpose of improving the local economy.

One outcome of the project was the creation of a usable database of producers and consumers that focuses on existing supply and demand. With a usable database accessible by both producers and consumers, both parties can gain access to one another. By facilitating the communication, each group can establish the framework for building relationships and business partnerships.

Contact was made with at least 90% of those listing their property as in agricultural production using newsletters of USDA Farm Service Agency and other farm organization, the local paper, the Morgan County chapter of the Farm Bureau, and WVU Extension associated organizations to increase awareness of the potential of the specialty crop market. An inventory and database was completed and brought awareness of the project.

A brochure for public distribution listing Morgan County farm products was completed and farm directories were distributed throughout the county.

Eight farmers adjusted and expanded crop production because of this project. Follow up interviews at a Berkeley Springs Farmers Market meeting and telephone interviews resulted in 22 area farmers increasing specialty crop production and selling to area businesses and institutions.

A report was developed in conjunction with the Morgan County Economic Development Authority (MCEDA) Ag Task Force to prioritize issues facing specialty crop producers. An implementation plan designed to overcome barriers and improve the competitiveness of specialty crops in Morgan County was completed and presented to the MCEDA. The plan included a variety of business opportunities relevant to producer and consumer needs. *(i.e. distribution center/warehouse/co/op for area farmers to sell specialty crops, an on-line marketing program accessible to producers and consumers to facilitate accurate supply and purchasing agreements, marketing education for producers, and educating local consumers of the nutritional and financial benefits of eating locally were all suggestions for an action for the county.)*

The implementation plan became a guiding principles document for WVU Extension, Potomac Headwaters RC&D, and other organizations to aid them in planning for projects and financial assistance that address barriers to expansion and provide help for specialty crop producers.

4. Activities performed under the grant included the inventory of existing specialty crop producers, the inventory of consumers, activities to recruit large purchase customers, activities undertaken to increase purchasing linkages, identification of the potential for expansion and identifying barriers to increased production and purchases of specialty crops. These activities were conducted through the efforts of the Morgan County Economic Development Authority's Agriculture Task Force.

Completion of portions of the original work outlined in the grant application was accomplished with other sources of funding due to the restriction of using Specialty Crop Block Grant funds). The conclusion of the Ag Task Force's work coincided with the creation of the Morgan County Association for Food and Farms (MCAFF) to pursue many of the recommendations of the Task Force. MCAFF prepared a plan to extend

the work of the grant using remaining funding to focus on helping producers expand production and market their products and to continue public and consumer education and included support of direct training for specialty crop producers. Development and conduct of a local workshop 'Planning for Food Production in 2012 & Beyond' resulted in outlines for future actions in planning and development, marketing and production. Thirteen producers and three trainers were provided support for additional training and will be conducting additional workshops locally in the winter of 2012-13 on business planning, season extension production and CSA development and marketing.

5. The extent of local production was identified by survey, the conclusion being that demand continues to outstrip production. One large producer continues to increase sales to large market chains and to large farmers markets in the Baltimore/Washington metropolitan area. A few medium to small producers are increasing production, diversifying their products and extending their sales season to local and regional farmers markets. Use of season extension measures continues to increase resulting in the extension of the Berkeley Springs Farmers Market from 1 April to mid December. CSAs have extended into early spring and late fall.
6. Grant activities contributed directly to achieving long term goals. The inventories identified the extent of local production and consumption setting the stage for future actions. One potential large consumer, Morgan County Board of Education, has identified the needs for their program. The training and development plan has identified the need for a continued broader education program, particularly in the development of business plans for small producers.
7. The contact for further information – Larry Lower, 304-258-3815 or 410-371-0442 (cell) or by email at larrylower@yahoo.com.

How to Construct an Eco-Friendly High Tunnel
West Virginia State University Research & Development Corporation
Amount of Grant: \$10,000.00 (+additional \$10,000.00 reallocation)

1. What was the issue, problem, interest of need for your project?

Season extension tools can significantly increase sustainable food production by extending the season to grow and protect crops from inclement weather and pests. A widely used season extension tool in other parts of the world is the high tunnel (or hoop house). A high tunnel is similar to a greenhouse as it is a plastic covered but usually unheated, structure, which can be used to grow a wide variety of crops year around. Developed in the US, but only recently becoming a tool for US growers, high tunnels protect, accelerate and expand the season for specialty crops and permit growers to continue field activities during inclement weather. Planting and first harvest are earlier in high tunnels, which also allow plant growth earlier in the spring as well as later into the fall. In this way, high tunnel growers are able to access main and lucrative early- and late-season markets.

High tunnels are ideally suited to the climate and topography for small producers in WV. In fact, the production season can almost cover the entire calendar year without the addition of small heaters even in WV. Thus, a producer growing only on the land can produce eight out of the twelve months, but a grower that augments this with a high tunnel can produce almost year round.

Limited adoption of high tunnels in West Virginia prior to 2009 was due to limited exposure to the technology, a lack of design knowledge, and cost and transportation of materials to rural areas. Most growers while interested were not willing to spend over \$10,000 to purchase a technology they were not familiar with and not sure if it was something that would augment their profits. Thus the idea was born to develop a low-cost eco-friendly high tunnel that could be constructed for under \$1,000 to introduce growers to the technology and opportunities. This would allow them to investigate the use of high tunnel technology and see if it was worth expanding into this area for their farm enterprise.

2. How did you approach each of the issues or problem described in Question 1? Match your project activities to the issues, problems and/or interests listed above.

Our approach was to construct a low-cost high tunnel using as many locally available resources as possible (Goal 2). The sites selected were with growers committed to production of specialty crops. By replicating a high tunnel design that was low-cost with multiple builds we would be able to work out most of the “bugs” before publishing a manual (Goal 3). In addition, as we did the builds we would not only educate the grower but also any of their colleagues or ag professionals that were present (Goal 1).

3. What were the goals for the project?

Goal 1: At least thirty landowners will construct an eco-friendly high tunnel to augment or initiate their farm enterprise by 2015.

Goal 2: Construct five eco-friendly high tunnels and utilize the experiences to field-test the publication.

Goal 3: Develop and distribute a publication on how to construct an eco-friendly high tunnel.

4. **For each goal listed in #3,** provide the following:

Goal 1: At least thirty landowners will construct an eco-friendly high tunnel to augment or initiate their farm enterprise by 2015.

- a. Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

Completing Goal 2 was necessary for this as well as publicizing high tunnel production and this project. We have presented information on this at five different conferences in the state as well as talking with ag professionals and farmers in the region about the project. Our next move will be to do follow ups with the sites as well as others from our website (under development) and through contacts.

- b. If outcome measures were long term, summarize the progress that has been made towards achievement.

We have completed the construction of ten high tunnels using our low-cost eco-friendly high tunnel concept. We have also given nine presentations and/or workshops in West Virginia on high tunnels. These talks were either on our project or associated with using high tunnels for specialty crop production.

We will now begin following up with the sites we worked with and others that have expressed an interest in the manual we are completing (see Goal 3) to follow up on this goal. Liedl will continue to measure this goal as part of her NE SARE PDP coordinator duties.

- c. Provide a comparison of actual accomplishments with the goals established for the reporting period.
- d. Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

We are just starting this goal as it is not due for completion until 2015. We have a group of growers involved in this project and others that have expressed an interest in high tunnel production.

We have anecdotal evidence that that shows we are already on target to meet this goal. First a number of people at our workshops have applied for NRCS EQUIP funding for a high tunnel which did not exist when we started this project. Second we have groups that have asked for our supply list and assistance to put up their own high tunnel. Third we have groups already putting up another high tunnel (Williamson Community Garden site).

Goal 2: Construct five eco-friendly high tunnels and utilize the experiences to field-test the publication.

- a. Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

Thirty-one people or groups applied for the project from 18 counties in WV. A group of four professionals reviewed the applications to decide who should get a site visit. The group included Barbara Liedl, T. Wilson Hudson, Jeremy Sisson, and Matt Browning. Twelve sites in nine counties were visited between May and July of 2010. At the end, the group decided to put high tunnels up in the following counties: Putnam (2); Wayne (2); Roane, Wyoming, Greenbrier, Logan, Ohio, and at Jackson's Mill (WVU). The first was constructed in August 2010 in Putnam County and the tenth was finished in March 2012 in Fayette County.

Of the original ten, we had to change three sites. The one to go to Jackson's Mill ran into difficulties and was switched to Jackson County with Dr. Jett's approval. The Wyoming county program that had applied lost their staff and so their tunnel went to a young

farmer in Fayette County that works with the Farmers Market and our Extension Agents in the area. Finally the High Tunnel in Ohio County with the Wheeling Community Gardens had site difficulties and could not be put at the original site or even the next proposed site. We found another community garden project in Williamson, WV (Mingo County) which received the tenth high tunnel. We still are committed to helping the group in Ohio County and they are looking at a third site with a grower that can be used for production as well as demonstration.

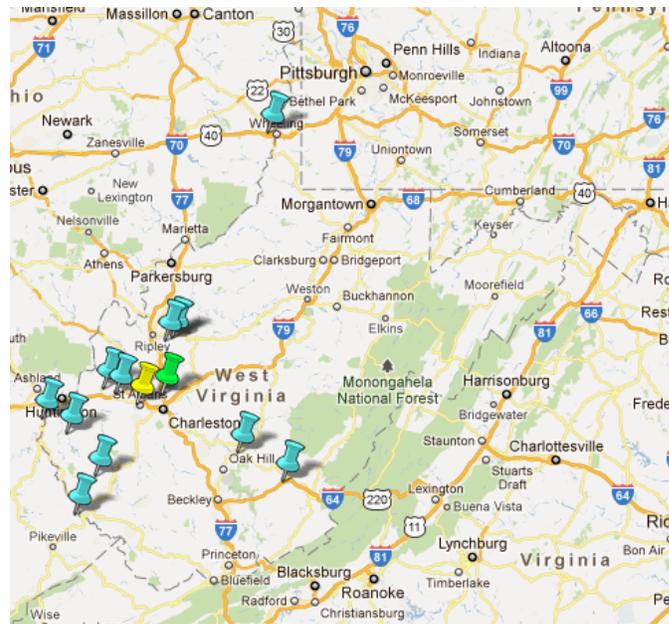


Figure 1. Sites involved in the Low-Cost Eco-Friendly High Tunnel Project supported by the WV Dept of Agriculture Specialty Crop Block Grant. WVSU (yellow push pin), Hudson Farms (green push pin), High Tunnel construction sites (turquoise push pins) include:

- Putnam County
 - Aimee Figgatt, Charleston (formerly of Teays Valley)
 - Bonnie Johnson, Hurricane
- Wayne County
 - Eddie Adkins, East Lyn
 - Myrtle Brown, Pritchard
- Roane County
 - Cathy Flashman, Gay
- Jackson County
 - Rod White, Gay
- Wyoming County
 - Brian Smith, Lookout
- Greenbrier County
 - Freddie Hedrick, Sam Black Church
- Logan County
 - Bobbie Workman, Harts
- Mingo County

Williamson Community Gardens, Williamson

- b. If outcome measures were long term, summarize the progress that has been made towards achievement.

Not applicable.

- c. Provide a comparison of actual accomplishments with the goals established for the reporting period.
- d. Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

This goal was to field test five high tunnels which was expanded to ten in the second half of 2010. We did the tenth construction the end of March in 2012. Thus this goal is complete.

Goal 3: Develop and distribute a publication on how to construct an eco-friendly high tunnel.

- a. Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

This activity was dependent on completing Goal #2. We have completed a second draft of the manual. We have need to complete the revised construction details for the end walls as this was revised after build number six. We also need to go thru photographs and include the best ones to illustrate the points. We currently have some selected but better ones have been taken to illustrate critical points and points without photographs.

The next step is to complete a third draft and then talk with our communications department on how best to layout the publication so it will meet with their guidelines. We have had an almost complete turnover of communications staff in the last six months and so we will be working with the new team to meet their goals.

We plan to make the publication available in two formats. First as a freely available PDF format on the web that could be downloaded. We have asked our communications team to see if we can set up the download so it will ask for an email address so we can follow up with people who download the publications. In addition, we would like to print a small number that would be available for sale as well.

- b. If outcome measures were long term, summarize the progress that has been made towards achievement.

There were no long term measures that were built into this objective, but we are hoping that we can use this product to fulfill the long term objective in Goal 1.

- c. Provide a comparison of actual accomplishments with the goals established for the reporting period.
- d. Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

We have a draft of the manual that is at approximately 50% completion. Due to delays in construction of the high tunnels and other projects this pushed back the completion of this goal. We hope to have this complete in the first half of 2013. Requests to help other groups get their high tunnels up or in projects they have proposed has pushed this component to the back. Due to the interest we are not putting it on the front burner to get completed.

5. Describe specific results, conclusions, lessons learned, success stories, testimonials or other documentation; use statistics and measurable results here.

Results: We found it was easy to replicate the original high tunnel for under \$1000. In fact we found we could do it for under \$800. However the original design was using furring strips rather than wiggle wire & channel to hold the plastic to the structure. After the first three builds we tried building with the wiggle wire and channel and found this to be easier to construct and still had a total price under \$1000. There were added benefits to using this to hold the plastic – 1) easier to attach the plastic to house and 2) easier to change or switch the plastic. We have had a few growers that had problems with heavy snow loads on their house and rather than cutting the plastic they can release the wiggle wire from the channel on one side of the house and let the plastic go loose. Then once the weather is warmer they can reattach the plastic. So while the grower may lose what is inside the house they do not have to buy new plastic for the top of the high tunnel.

If the site is prepared and there are 3-6 people with some experience with power tools our high tunnel can be constructed in two long days. We have had some that have taken three mostly due to problems with the site being poorly prepared or not enough labor.

Many of the growers had plants/seed in the structure within days of construction but others did not. In the future I would use an MOU (memorandum of understanding) to identify what was required before and after construction from the grower and what we would provide from the project. We still need to go around to each of the sites and check in with the growers to see how the structure has lasted and what they have or would change. This is continuing this winter so we can incorporate those ideas into the manual.

Lessons learned: We had several things that we considered successes or good things to replicate in the future. They included 1) field testing multiple times for a construction project was critical to identify where to make changes to make this

easy for others to replicate, 2) using an application process with a site visit prior to selecting sites, 3) training other growers/ag professionals during the builds as they gave the best word of mouth on the project around the state, 4) keeping our options open as we had problems with the weather, getting people to help on some builds and sites that were unable to be used and 5) building in multiples helped reduce the cost. Things that we need to do a better job on in the future: 1) use MOU (memorandum of understanding) between the PI and each grower, we did not do this as we were behind on getting the money and so felt rushed to start getting the structures up, but this became problematic in getting people to work on the build. We also did not have any reporting tied into the project from the original proposal and should have done that in conjunction with this. 2) We needed to plan for more time to construct as both Mr. Hudson and I had other projects we were working on and this took a large amount of time to coordinate people, materials and equipment around the state.

6. What were the long term outcome measures for the project? Describe the progress made towards obtaining these long term outcomes. Did the grant activities contribute towards achieving these goals?

We had one long term goal (Goal 1: At least thirty landowners will construct an eco-friendly high tunnel to augment or initiate their farm enterprise by 2015). Construction of the ten high tunnels has spurred on construction of similar or kit high tunnels by other growers. We are checking back with all of our original recipients in early 2013. With this check in about midway to the end goal of 2015 we are going to ask a) what are they using their high tunnel for on their farm; b) do they know of others that have added high tunnels in their area and c) what do they wish they knew now that they didn't know before they had a high tunnel. We will use on site visits as well as phone and email means of contacting them. I will continue working on this objective as part of my SARE PDP coordinator position.

We have had continuing interest in the project well past the time we put the last high tunnel up this year. The Williamson Community Gardens has already started construction on a second high tunnel. Putnam County Extension Agent Chuck Talbot is looking to put a high tunnel up using our design at an elementary school in his county. In addition, this does not even begin to count the number of people that Mr. Hudson and I have talked with individually about constructing a high tunnel or given our parts list to.

7. Attach additional information including publications, field day announcements, published reports, web sites, photos and other grant activity materials. Be sure to include copies that have the Specialty Crop Grant funding statement.

Presentations:

Tri-State Farm Conference, November 2010, Huntington, WV
“Building a Low Cost High Tunnel” Liedl and Hudson - 1 hour session including a demonstration with our training high tunnel with handout
WV Small Farm Conference, February 2011, Morgantown, WV

“High Tunnels” Lamont, Liedl and Hudson – day long workshop on high tunnel construction and practices with demonstration with our training high tunnel

“Building a Low Cost High Tunnel” Liedl and Hudson - 1 hour session including a demonstration with our training high tunnel with handout
Grower Training, April 2011, Kanawha and Clay Counties, Clendenin, WV

“High Tunnels: What, Why and How” Liedl - 1 hour session with handout

“Care and Feeding of a High Tunnel” Liedl – 1 hour session

“Constructing a Low-Cost High Tunnel” Hudson – 1 hour hands on session
Tri-State Farm Conference, November 2011, Huntington, WV

“High Tunnels: What, Why and How” Liedl - 1 hour session with handout (handout attached)

WV Small Farm Conference, March 2012, Morgantown, WV

“Building a Low Cost High Tunnel” Hudson and Bill Stewart, Wayne County - 1 hour session including a demonstration with our training high tunnel (power point in Google Drive)

American Society of Horticultural Science Annual Meetings, August 2012, Miami, FL

“Lessons Learned Field Testing Low-Cost High Tunnels in West Virginia” Liedl, oral presentation (abstract attached and powerpoint in Google Drive)

In preparation

“How to Build A Low-Cost Eco-Friendly High Tunnel” Manual – it is currently in the manual second draft and we hope to have it done for publication both on the web and in paper in the first half of 2013.

A few photos will be made available via Google Drive. The photos are large and that is an easier way to share them rather than clogging email folders. There are also photos available in the attached power points. Please let me know if there are any photos you want specifically and I can post them to Google Drive specifically. We currently have between Mr. Hudson and myself several hundred photographs to use for constructing the manual

8. List a contact person for the project with a telephone number and email address for future WVDA or USDA contact.

Barbara E. Liedl, Associate Research Professor, office 304-932-0843,
liedlbe@wvstateu.edu

Trials to Find a Renewable/Biodegradable Hydroponic Substrate

West Virginia State University Research & Development Corporation

Amount Awarded: \$6,881.74

1. What was the issue, problem, interest of need for your project?

Specialty crop agriculture products and practices such as hydroponic systems are becoming important components in the agricultural landscape especially since most occur in protected culture, which allow growers to market produce almost year round. Hydroponic production is a soilless culture system where plants are supplied nutrients and anchorage in a soilless substrate. The major advantages of these soilless systems are the elimination of soil and hence the need for soil sterilization by steam or chemicals along with the precise control of the application of nutrients and water.

Even though these systems do not use soil, they generally use a substrate. The traditional substrates use either one or a combination of some of these major components: perlite, coir, lava rocks and rockwool. Coir is the only one from that list which is renewable or biodegradable, however it is not produced in the US.

Prior research at WVSU has found parboiled rice hulls (PBH) could be utilized as a replacement for perlite. Kenaf has similar properties to coir and is utilized as a replacement for coir liners in hanging basket production. In addition, kenaf has not been utilized in hydroponic production. Our question is if kenaf could be used as a replacement for coir in substrates with either perlite or PBH.

West Virginia has a handful of hydroponic operations. The impact of this research could be to enable growers currently using or considering hydroponics another option rather than using substrates that are not renewable or biodegradable and hence reducing their tipping fees.

2. How did you approach each of the issues or problem described in Question 1? Match your project activities to the issues, problems and/or interests listed above.

We set out to run the experiments proposed in the grant proposal submitted. We had three goals (see below) which were to trial using kenaf as a replacement for the coir, trial cut flowers in a vertical hydroponic system and explore the ability to plant different plants within a tower to optimize for production based on water usage.

3. What were the goals for the project?

Goal 1. Evaluate four substrate combinations to develop biodegradable/renewable substrates for a vertical hydroponic system. Substrates to be evaluated will be perlite/coir (standard); rice hulls/coir; perlite/kenaf; and rice hulls/kenaf.

Goal 2. Investigate the potential to grow cut flowers in a vertical hydroponic system.

Goal 3. Compare production in mixed versus single crop planted in a vertical hydroponic system.

4. For each goal listed in #3, provide the following:

Goal 1. Evaluate four substrate combinations to develop biodegradable/renewable substrates for a vertical hydroponic system. Substrates to be evaluated will be perlite/coir (standard); rice hulls/coir; perlite/kenaf; and rice hulls/kenaf.

- a. Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

The hypothesis for this experiment is that there will be no difference between the four different substrates. If there is no difference then the totally biodegradable/renewable substrate (rice hulls/kenaf) could be utilized in place of the standard (perlite/coir).

The WVSV vertical hydroponic system was used and consists of forty-two towers. Each tower holds eight Styrofoam pots stacked vertically on a PVC covered piece of conduit. The towers are held upright between the truss and a piece of PVC suspended over a gully made of standing seam roofing material. Four substrate mixtures were used made of approximately 85% coarse perlite or parboiled rice hulls (PBH) with 15% coir or kenaf fiber. Pots for ten towers were filled with each substrate type (perlite/coir, perlite/kenaf, PBH/coir or PBH/kenaf). Ten towers of each substrate were constructed for a total of 40 towers in the main experiment. The substrate for each type was wetted overnight with water from the irrigation system to insure complete saturation of the media prior to planting.

Plants were purchased as plugs from Rakers and included basil, violas, digitalis, snapdragons and pansies. Plants were transplanted in early December of 2010 and the experiment terminated the end of March. Plants were assigned randomly to towers so that each plant/substrate combination was replicated twice in the experiment. Fertigation of the plants was based on supplying 3.3 L/plant/day (Pritts and Handley, 1998).

We also trialed a new injector from Dositron, which is smaller and reported to be more durable than previous models. A commercial hydroponic fertilizer solution consisting of 150 ppm N, 50 ppm P, 250 ppm K and various trace elements (Stapleton and Hochmuth, 2001) was used. The pH and EC (electrical conductivity) were checked each time the fertilizer solutions are remixed (approximately every 10-14 days). Emitters were calibrated and timers set to deliver the desired amount over twelve times/day into the top pot of the tower. Towers will be turned a ¼ turn clockwise daily to allow even access of the plants to sunlight.

Basil was harvested weekly when the petiole or stem length exceeded 6-8 inches. Stem number and fresh weight in grams was recorded with the first harvest in early January. Edible flowers were harvested when petals were open (usually every 2-3 days) and the number of stems as well as fresh weight in grams was recorded. Cut flowers were harvested based on recommendations from the Cut Flower Growers Association. Fresh weight and flower/stem number was taken for these as well.

We tried entering the data directly into a netbook computer to aid in quick analysis of the data. However, we found that the sunlight and overhead lighting in the greenhouse made it difficult. Changes were made by recording the data on paper and then entering in it as each harvest was completed. Data still needs to be analyzed for ANOVA and Duncan's Multiple Range Test for mean separation using SAS (Cary, NC, USA).

- b. If outcome measures were long term, summarize the progress that has been made towards achievement.

Using the kenaf in the medias was difficult as it came in a roll which had to be shredded. We tried several methods and finally ended up using a wood chipper. However, we did notice some problems with mushrooms coming up from the media with kenaf. We believe it was from the chipper, but do not have definitive proof.

General trends are as follows (Table 1). In almost all cases the Perlite medias produced more weight than the PBH medias regardless of whether it contained Coir or Kenaf. The only exception was pansies which produced more weight in PBH/Coir than either Perlite media. This will need to be checked as several missing data points for numbers of stems were found in the data set. Coir and kenaf were close in production and will require statistical analysis to be able to separate those components.

In terms of marketability, neither cut flower (snapdragons and digitalis) were of marketable quality based on stem length. The snapdragons produced had great flowers on the stem, but the entire harvested unit was under 1 foot. The only good use from these would be in tussy-mussy bouquets which are not popular or marketable for our customers. Almost all of the basil was marketable and high quality. Some was taken to a local restaurant which was happy to have fresh basil in winter to use. The

edible flowers were also almost entirely marketable and very productive. More than 5,000 pansies and over 20,000 violas were harvested in less than 3 months.

Table 1. Total weight harvested for herbs, edible flowers and cut flowers.

Crop	Media	Total weight (g)
Digitalis	Perlite/Coir	274.74
Digitalis	Perlite/Kenaf	394.88
Digitalis	PBH/Coir	39.85
Digitalis	PBH/Kenaf	24.95
Basil	Perlite/Coir	3040.87
Basil	Perlite/Kenaf	2919.34
Basil	PBH/Coir	2443.11
Basil	PBH/Kenaf	2588.56
Pansy	Perlite/Coir	1110.83
Pansy	Perlite/Kenaf	883.91
Pansy	PBH/Coir	1306.50
Pansy	PBH/Kenaf	472.83
Snapdragon	Perlite/Coir	3103.32
Snapdragon	Perlite/Kenaf	2953.43
Snapdragon	PBH/Coir	1867.08
Snapdragon	PBH/Kenaf	1669.06
Viola	Perlite/Coir	1006.3
Viola	Perlite/Kenaf	1168.53
Viola	PBH/Coir	631.77
Viola	PBH/Kenaf	476.71

- c. Provide a comparison of actual accomplishments with the goals established for the reporting period.
- d. Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

Goal of a first experiment with kenaf as a replacement for coir was accomplished. We have done a second experiment using the same four substrates and growing strawberries. The data has not been totally analyzed but we have seen similar trends. In this case it is obvious why the medias with PBH is not working as well as noted by the ave % plant survival (Table 2). But that alone does account for the 10% production in the PBH vs. Perlite medias. It is obvious that changes would have to be made with the PBH before it could be reliably used in hydroponic production.

Table 2. Strawberry production trial with four substrates.

Substrate	Ave % plant survival/tower	Total berry weight (g)
Perlite/Coir	97.50	17753.42
Perlite/Kenaf	96.88	16079.78
PBH/Coir	65.00	1705.06
PBH/Kenaf	68.75	1948.99

Goal 2. Investigate the potential to grow cut flowers in a vertical hydroponic system.

- a. Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

See goal 1 for a description of the larger experiment that contained this goal as well. The only change for this is how we harvested cut flowers. Stems were harvested from each tower and recorded as stem number. We originally were also going to record stem length and report on the square foot basis so we could compare produced based on field/greenhouse to determine if cut flowers grown in a vertical hydroponic system was feasible. However, the cut flowers that were chosen did not bloom readily and/or the stems were too short to use as a cut flower, so we only recorded stem number.

- b. If outcome measures were long term, summarize the progress that has been made towards achievement.

NA

- c. Provide a comparison of actual accomplishments with the goals established for the reporting period.
- d. Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

This was our first attempt at growing cut flowers in a vertical hydroponics system. It is obvious that the two chosen were not good choices. This does not rule out that others might work better. But care must be taken in choosing what crop and variety could be used in this type of system. It is possible that this system may never be useful for cut flowers as one of the major points in a cut flower is to have a long stem and it is difficult to

obtain long stems in this type of system. So while interesting I do not see it as a research avenue to pursue further at this time.

Goal 3. Compare production in mixed versus single crop planted in a vertical hydroponic system.

- a. Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

This activity was not completed. There were problems obtaining plant material and there was not enough space in the system to try this with the original experiment. In addition there were too many variables with the four substrates.

- b. If outcome measures were long term, summarize the progress that has been made towards achievement.

No progress. If attempted in the future this should be an experiment in itself so there is enough replication to assess the feasibility of this option of production.

- c. Provide a comparison of actual accomplishments with the goals established for the reporting period.

None.

- d. Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

None.

5. Describe specific results, conclusions, lessons learned, success stories, testimonials or other documentation; use statistics and measurable results here.

- A. Parboiled Rice Hulls (PBH) are not equal to perlite in use as a substrate for hydroponics. Prior and subsequent research supports this.
- B. Kenaf may be a good alternative for coir (data analysis needs to be completed). However, it will be important to find a way to shred this to use to make substrate mixes. In our hands it acted more like wads of hair.
- C. The new small dosmatic injectors work wonderfully and are easier to handle and install than the old ones.
- D. Using a netbook out in the extreme light conditions of a greenhouse was difficult. Either a nook with shading or some other means of blocking the sun would be necessary for this to work.
- E. Cut flowers do not show promise in vertical hydroponics due to short stems. But this could be due to choice of plant or variety. However, it is probably not a wise course of study to continue.

6. What were the long term outcome measures for the project? Describe the progress made towards obtaining these long term outcomes. Did the grant activities contribute towards achieving these goals?

No long term outcome measures were made for this project.

7. Attach additional information including publications, field day announcements, published reports, web sites, photos and other grant activity materials. Be sure to include copies that have the Specialty Crop Grant funding statement.

Planning for publication in early 2013 after the results have been analyzed. After checking the original data we have to revise how we will analyze the experiment and we have only recently gotten our SAS/JMP license renewed. The analysis will be done in Oct/Nov of 2012, and looking to have a publication to submit in January or February of 2013.

It is not known exactly how many individuals this will reach; however, this is a link to the publications by the American Horticultural Society of America http://www.ashs.org/index.php?option=com_content&view=section&id=8&Itemid=71. This research is best aimed for HortTechnology or HortScience. Both of these journals are international in scope and thus could have thousands of people viewing them.

The project was featured in an edition of *Mountain State Science* and it showed the experiment as well as students harvesting it.

<http://youtu.be/qlwv-ulbso>

Barbara E. Liedl, Associate Research Professor, office 304-932-0843, liedlbe@wvstateu.edu

Media Spotlight: Branding of Specialty Crops in West Virginia with the West Virginia Grown Logo

The Media Center

Award Amount : \$10,000.00

Project Summary

This project provided much needed recognition and public awareness of West Virginia specialty crops and the West Virginia Grown Logo (a product identification program correlating specialty crop agricultural products with West Virginia farmers).

The project provided satellite uplinks accessing multiple television stations and leading to outreach in thousands of West Virginia and surrounding regions. The uplinks attempted to promote West Virginia specialty crops, provide specialty crop usage ideas and provide information for follow up resources such as retail outlets and farmers markets. Ultimately, the goals were to increase awareness through demographic reach, increase sales to target audiences and drive consumers to specialty crop retail outlets.

Project Approach

The project featured three uplink opportunities creating both seasonal and market interest.

- May, 2011 event emphasizing the opening of Farmers Markets throughout the state featuring horticulture products, bedding plants and herb. The uplink occurred in the outdoor section of the market featuring only bedding plants, vegetable plants, spring crops (i.e. radishes, early herbs, etc.) and potted plants. Visually, the viewer was only exposed to specialty crop products and the indoor/non-eligible section not photographed or referred as part of the broadcast.
- August, 2011 event emphasizing summer specialty crops (sweet corn, tomatoes, etc.) utilizing the produce competition at the State Fair of West Virginia. This also served as a setting for presentation of SCBGP awards as an additional specialty crop focused event for media coverage.
- December, 2011 event emphasizing the West Virginia Christmas Tree industry at the Capitol Market

Goals and Outcomes Achieved

- On May 3, 2011 the West Virginia Department of Agriculture partnered with The Media Center to create a public awareness of the Farmers Markets opening across West Virginia. The media services of The Media Center were used to assist in creating the needed awareness through a satellite uplink TV news coverage concept. According to a local agency media buyer the coverage was worth \$72,000 if the same amount of time and space had to be purchased. That total surpasses the project's goal through the coverage provided by The Media Center for the event.

- On August 16, 2011 the West Virginia Department of Agriculture partnered with The Media Center to create a public awareness of an announcement of nearly \$100,000 in grants for WV farmers to promote specialty crops along with the produce and specialty crops displayed at the State Fair of West Virginia. The media services of The Media Center were used to assist in creating the needed awareness through a satellite uplink TV news coverage concept with live interviews during evening newscasts. According to a local agency media buyer the coverage was worth \$85,000 if the same amount of time and space had to be purchased. That total surpasses the project's goal through the coverage provided by The Media Center for the event.
- On December 1, 2011 the West Virginia Department of Agriculture partnered with The Media Center to create a public awareness of Christmas Tree Markets that are available across West Virginia and how the specialty crop industry related to Christmas tree production has been expanding. According to a local agency media buyer the coverage was worth \$37,000 if the same amount of time and space had to be purchased during the fourth quarter.

The following television markets had access to one or more of the programs described:

Charleston, WV (3 stations)
 Clarksburg, WV
 Beckley, WV
 Wheeling, WV
 Parkersburg, WV
 Harrisonburg, VA

Hagerstown, MD
 Bluefield, WV/VA
 Oak Hill, WV
 Bridgeport, WV
 Cumberland, MD

Advertising outreach value is determined by the number of times the segment is broadcasted and the slot(s) in which the segment aired (i.e. noon-live, 6PM or 11PM). All segments were at least 1 minute in length. Total household reached exceeded 1 million.

Direct economic impact was measured at the first and third event and measured by direct sales. During the day of the broadcast and the subsequent 7 days, the Capitol Marketing experienced an increase in revenue of specialty crop sales of 4% of among the outdoor vendors (15). For the December Christmas Tree promotion, market vendors experienced an increase in revenue of 2-3% overall on sales of specialty crop Christmas Tree related items.

At the conclusion of each segment, viewers were encouraged to look for the West Virginia Grown local symbolizing a West Virginia specialty crop.



This project was targeting consumer awareness to maximum exposure and return on investment (\$10,000 investment yielding \$194,000 of earned media and 1 million household impressions) along with an increase in expenditures in specialty crop purchases.

Beneficiaries

The beneficiaries of this project included the vendors at the markets where the broadcasts occurred, competitors and attendees at the State Fair, the growing network of state farmers markets (now totaling 93; up 57% since 2007), the Christmas Tree Growers Association and its members and the 1 million households who had access to the information and resources mentioned in the broadcasts about the West Virginia specialty crops industry.

Lessons Learned

The Christmas Tree promotion yielded interesting data from consumers concerning purchasing of West Virginia Christmas tree products. At the end of the season, the follow up to the project yielded a decline in the total revenue for trees (<approximately 3% over the previous year). Average trees sold per vendor (7) was 550 trees with the range being 450-600. Average revenue per tree was \$40 per tree. The decline in sales was directly attributed to mass merchandising of artificial pre-lit trees and a decline in interest for fresh trees. The significant increase in revenue from these vendors came from value added Christmas tree products (wreaths, garland, roping, ornaments and decorative items averaging sales of \$25-\$30 per person. It is estimated that sales of these items increased by 10% over the previous year.

Contact Person

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Additional Information

Blog entry from the Media Center about the December, 2011
Christmas Tree broadcast
<http://themediacenter222.com/blog/christmas-tree-farming-grows-become-statewide-holiday-industry>

Section I

West Virginia must develop and expand its local food production. West Virginia is predominantly rural with an abundance of small farms which are extremely well-suited to diversification with specialty crops such as vegetables, small fruits and herbs for local markets. In fact, in many regions of West Virginia, local production has not kept pace with the growth in demand at farmers' markets, restaurants and roadside stands for local food products. Many markets in the state are seeking growers to fill the expanding demand for local, vine- or tree-ripened produce. To expand the supply of locally grown foods, both production efficiency and the number of producers must increase concurrently. Farmers' markets are rapidly expanding across West Virginia. While many of these markets are robust seasonal markets, there are approximately four year-round markets either in existence or in the planning stages. Getting into produce farming from scratch is not easy. The objective of this project was to focus on increasing the skills of new and existing growers and ultimately expand the supply and diversity of local produce. This project has increased the competencies of new growers and WVU extension educators as well as providing new information and skills to existing farmers who can expand to their full market potential.

Section II

To attempt to solve the issue of increasing supply of locally grown produce, a comprehensive training program was developed. Monthly workshops were conducted beginning in April 2011. The workshops were for beginning farmers but had application to experienced growers as well. In 2011-12, focus has been on the eastern and north central regions of West Virginia. Depending on the season of the year, the workshops are classroom-style or on-farm, hands-on training and open to all citizens (Figure 1). Attendees are encouraged to ask questions and participate in training. Attendees seem to enjoy participating in interactive workshops. The workshops were conducted on small farms in 12 West Virginia counties with \approx 150 new produce growers. Season extension was the focus, but best management practices including cultivars and types of vegetables and fruits; plasticulture production; irrigation and fertilization techniques; grafting and pruning methods for vegetables; pest management; as well as postharvest handling, food safety and marketing information was provided to attendees. Fact sheets and popular press articles related to specialty crop production and pest management were written and distributed to attendees.

Section III

The long-term goals of this project are to: 1) significantly increase the number of horticulture producers within each training region and 2) increase the supply and diversity of local food at farmers' markets in each region by 25% within 3 years (by 2014).

Section IV

The project began in 2011 with a series of early-season topics such as season extension tools, transplant production and variety selection. Approximately 20 workshops have been conducted to date across the training region with over 150 new growers educated (Figure 1).

Most of the training workshops have been conducted on farms where attendees can see vegetable and fruit production techniques. Extension educators have also participated in the training and have conducted additional workshops in their respective counties. Printed resource materials and CD's with vegetable and fruit production information have been distributed to attendees. Tools such as plastic mulch, row cover, drip irrigation, seeders, transplant trays and integrated pest management tools have been exhibited to new growers. Growers were surveyed at the end of each training event (Table 1).

Section V

Growers attending the training sessions in 2011 were surveyed and exhibited a significant adoption of technology and skills (Table 1). Growers had the opportunity to interact with other growers in their region as well as WVU Extension personnel. After completion of the low tunnel season extension workshops, over 50 low tunnels were constructed by participants and used for season extension of many vegetables and fruits including strawberries, lettuce, peppers, beets, carrots, kale and spinach. WVU extension educators used resources to develop independent programming for training additional growers in their counties. New growers obtained crucial information and exposure to production practices which can aid them in growing produce in West Virginia.

Table 1. Summary of grower evaluations^z, 2011. (Sample size=95)

<i>Usefulness of information?^y</i>	<i>Change production practices based on information?</i>	<i>Presenter prepared and organized?</i>
4.7±0.06	94% (yes)	4.6±0.07

^yRating scale: 1-5: 1=poor; 3=average; 5=excellent



Figure 1. Classroom and field training techniques have been used to train new growers.

Section VI

The long term goal of the project is to increase aggregate supply of locally-grown produce in West Virginia. In 2012, sampling of supply at random farmers' markets in the region will be conducted. We currently have data on supply levels from 2011 and are using this as our baseline value. We anticipate a modest increase in supply from farmers' markets. In addition, the growth of new markets will be tracked as this project continues. Our long term goal is to increase supply and diversity of local foods by 25% by 2014. The educational programs and resource materials provided by this SCBG will allow us to achieve our long term goal.

Contact:

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2010 West Virginia Small Farms Conference-Scholarship & Educational Program

West Virginia University-Tom McConnell

Amount Awarded: \$5,000.00

A new project proposal: "Farm to School with Specialty Crops in Fayette County" was submitted to reallocate these funds.

Fayette County Schools: Developing a Farm to School Program

Fayette County Schools-Andrew Pense & David Seay

Amount Awarded: \$5,000.00

Project Summary:

The need that this project addressed was implementing a Farm to School program in Fayette County, WV. The issues were purchasing produce from local farmers for school cafeterias, little or no current education in gardening in place, little or no gardening infrastructure, connecting students to farms and farmers, education on the health benefits of outdoor activity, and education on the health benefits of fresh produce and the rewards of growing it for yourself. Originally we planned on solving these issues at Gatewood Elementary and Rosedale Elementary, but after initially expressing interest, the principal at Rosedale withdrew his commitment to the project. So I approached another school where there was interest: New River Elementary. This proved to be even better, as New River Elementary had more space for gardening and a larger student population (700 students at New River Elementary vs. the 249 at Rosedale Elementary).

Project Approach:

The project principals went to Farmer's Market meetings to meet farmers and approach them about doing workshops with the kids on gardening and also about setting up a field trip to their farms. Teachers who were willing to incorporate gardening into their curriculum were sought out. We also connected with an Agriculture Education teacher, Patrick Bennett, to seek his assistance and advice. Parent volunteers interested in working with the kids on gardening activities were recruited. We consulted Agriculture Extension agents for advice on working with youth and conducting surveys.

All lessons and activities addressed the issues of gardening education, garden infrastructure, connecting students to farms and farmers, education on the health benefits of outdoor activity, and education on the health benefits of fresh produce and the rewards of growing it for yourself.

Things were done in a very practical way. Every attempt was made so that the students not only received instruction but applied the instruction in a hands on component. The hands on components let the students see and take pride in the work of their hands in the form of: compost bins they built, window sill sprout containers they made and used to grow sprouts, young plants they started from seed in seed trays and then transplanted into the gardens, raised beds they built, shoveled dirt and compost into and planted. Also all lesson plans were developed using Junior Master Gardener curriculum lesson plans.

Little or no current education in gardening in place, and little or no gardening infrastructure:

At Gatewood Elementary they had put in an experimental school garden the year before and planted 50 lbs of potatoes and some pumpkin vines. The students dug 22 lbs of potatoes and picked 16 pumpkins. The students said that the potatoes were the "best ever." Which demonstrates the interest kindled by the experiment. It was our goal to foster and build upon this enthusiasm. Aside from

this potato and pumpkin patch there was no infrastructure. New River Elementary had no garden at all.

The gardening education in place before the start of the project varied from class to class and was quite basic in most instances with the exception of some lessons on apiculture through the library program that was quite detailed. Using the Junior Master Gardener curriculum detailed lessons on the following were taught:

- growing sprouts for food,
- composting for gardening (built four compost bins and composted cafeteria scraps at Gatewood Elementary),
- berry bush cultivation (we planted 50 berry bushes: thornless blackberry, raspberry, and blueberry,
- apple tasting and nutrition,
- produce bed cultivation (built and planted 10 raised beds at each school),
- and potato cultivation.

With the kids, we built and planted 10 raised beds measuring 3ft by 10ft. We planted a total of 85 lbs of potatoes. We will dig them at the end of September.

Education on the health benefits of outdoor activity:

Every lesson involved an active hands on component which we (the teachers and project staff) emphasized was part of the value of gardening. The students clearly appreciated the extra time actively engaged outside.

Education on the health benefits of fresh produce and the rewards of growing it for yourself:

Nutrition education was central to the lessons that involved eating fresh produce either grown or brought in for some “taste testing.” There is a plethora of information on the nutritional benefits of sprouts. We covered the vitamin and minerals in them and their

Goals & Outcomes Achieved:

1. Bring Farmers to the School

Brought Mitchell Deck, a local berry farmer, to the schools to do a workshop with the students planting berry bushes. He discussed how to care for them, nutrition benefits of specific berrys, and why he was inspired to become a farmer.

2. Take the Students to a Farm

Took Gatewood Elementary (by the time we made the switch to New River Elementary their calendar was full) to Mitchell Deck's Farm and then to Rick Rutlege's Farm, where they received a guided tour of blueberry fields and high tunnels with various vegetables and a strawberry crop and completed 4 farm related activities at each farm as well.

3. Build and Plant Production Oriented Raised Beds

1500 board feet of rough cut hemlock (2” by 10” by 16”) was donated to the project of building raised beds by a local lumber mill. I spent several days with the kids building the raised beds. 10 raised beds built at each school. After they were built we got top soil delivered and students helped me fill the beds. Then we spread compost on them and mixed it into the soil. Then we planted vegetables. To date we have harvested:

Kholrabi- 10 lbs 9 oz.

Cucumbers- 4 lbs 1.3 oz

Zucchini- 10 lbs. 4.6 oz

Tomatoes: 26 lbs.

We are setting benchmarks as we go, as only potatoes were planted last year. It is still early in the harvest season for us. We anticipate a lot more harvested in the next two months, including a lot of potatoes.

4. Build Compost Bins and Implement Composting

We built four compost bins with the students at Gatewood Elementary and implemented a composting program where students took out the kitchen and lunch scraps each afternoon.

5. Educate the Students on Nutritional Benefits of Locally Grown Fruits and Vegetables

I did an apple tasting with the students and discussed the nutritional benefits of apples specifically. They took seeds home from their favorite apples. Also Rick Rutledge sold strawberries to the school which were served in the cafeteria. On the field trip to his farm he discussed the nutritional value of strawberries and how he cultivates them.

6. "The goal of the development of the school gardens is to increase child knowledge and awareness of locally grown fruits and vegetables and to produce vegetables for the school cafeteria and local farmers' market. The project staff anticipates that child knowledge and awareness of gardening skills, locally grown fruits and vegetables, and where to access such local produce will increase by 30 percent as a result of the implementation of this project. Fayette County School child knowledge and awareness of how to garden and that locally grown produce to some extent; however, the project staff plan to hold pre-and post-surveys to attain this information." A representative sample of 53 students at Gatewood Elementary completed pre and post surveys before and after gardening lessons. There was an average of a 32% increase in student knowledge according to the data collected. The students scored an average of 32% correct on pre surveys and an average of 64% correct on post surveys. The standard deviation on pre surveys was: 17. The standard deviation on post surveys was: 25. The surveys were composed of 5 multiple choice questions.

Beneficiaries:

In addition to the 949 students who were directly impacted by the project and its learning activities, infrastructure and initial activities for a bonafide Farm to School program in the county has been formed. Parents and teachers have been impacted by the project through involvement and learning steps that the school is taking to improve the nutrition of school meals through increased production and consumption of specialty crops.

Lessons Learned:

Sustainability is critical to the ongoing success of this project. With the principal (Andrew) accepting the statewide coordinator position, the county has recently hired a new coordinator whose primary responsibility is to continue to build on the infrastructure (gardens) that this project has started.

Additional schools is a goal for the program, however, the important of a right fit is essential as discovered by the beginning efforts of this grant. One school would like to participate but has space issues where another school with space has lack of administrative support. Growth for the program will focus on taking

care of existing programs while developing, gaining support and implementing additional schools.

Contact Person:

David Seay, Food Service Director, Fayette County Schools
(304) 574-0511.

<http://www.youtube.com/watch?v=wvrps0-szq8&feature=youtu.be>

Survey Results:

	Pre	Post		
	0.4	1		
	0.6	0.8		
	0.6	0.8		
	0.2	0.4		
	0.2	0.6		
	0.2	0.8		
	0.4	0.8		
	0.4	0.8		
	0	0.8		
	0.2	0.6		
	0.2	0.4		
	0.4	0.8		
	0.4	1		
	0.2	0.8		
	0.2	0.4		
	0.4	1		
	0.4	0.4		
	0.4	0.6		
	0	0.2		
	0.6	0.6		
	0.2	1		
	0.4	0.8		
	0.2	0.8		
	0.4	0.6		
	0.4	0.4		
	0.6	1		
	0.6	0.8		
	0.2	0.2		
	0.4	1		
	0.6	0.6		
	0.4	0.8		
	0.4	0.8		
	0.2	0.6		
	0.4	0.6		

	0	0.8		
	0	0		
	0.2	0.2		
	0.2	0.4		
	0.2	0.6		
	0.2	0.2		
	0.6	0.6		
Average	0.321951	0.643902		32% increase
Standard Deviation	0.176016	0.255714		

**Statewide Producer Education and Professional Development Programs
West Virginia Department of Agriculture**

Amount Awarded: \$21,000.00

Project Summary:

Presentation of key food safety and processing information is critical to move the specialty crop industry forward in West Virginia. In addition to compliance with federal and state regulations, knowledgeable growers and processors are able to meet consumer needs resulting in increased demand, consumption and sales. Providing cost-effective training and resources to keep compliance and current in production and processing techniques were the needs addressed and met in this project.

Project Approach:

To fulfill the educational needs addressed above, a series of producer and manufacture trainings were provided. The sessions offered significant savings in that they were brought in-house and utilized the expertise of West Virginia University and Virginia Tech personnel.

A required Better Process Control School (BPCS) course for value added specialty crop producers was conducted in concert with the 2010 Small Farm Conference. This course was conducted by Dr. Joseph Marcy of Virginia Tech and then Dean of College of Agriculture at WVU, Dr. Cameron Hackney.

To address more advanced processing and more prevalent retailer requirements, a Hazard and Critical Control Points (HACCP) course was offered in April of 2012. This course was taught by Dr. Susan Sumner with Virginia Tech and Dr. Hackney.

The needs of fresh specialty crop growers and distributors were met through the offering of two day-long Good Handling Practices/Good Handling Practices (GHP/GAP) programs and two brief program overview presentations by Marketing & Development staff. Building on the work of a previous grant, retention of the Cornell instructors for these workshops as cost prohibitive so the services of Dr. Robert Williams with Virginia Tech were retained to teach these two and subsequent GHP/GAP training. The first course was taught at the 2011 Small Farms Conference and another conducted in Lewisburg, WV in October of 2011 and organized by the specialty crop growers of the Monroe Farm Market. The two hour long sessions were conducted at the 2011 Tri-State Small Farms Conference (November) and the 2012 Small Farms Conference (February, 2012).

Goals & Outcomes Achieved:

- The Better Process Control portion of the grant was conducted at the 2010 Small Farm Conference. A total of 45 students attended the course and the successful completion/pass rate was 95.% (43 out of 45). Ten of the course attendees were Extension or VISTA/Americorp employees who work directly with specialty crop growers and manufacturers in shared use kitchens or as a part of an economic development initiative. Twenty value added specialty food companies were in attendance and they processed a

variety of specialty crops including tomatoes, cucumbers, herbs, peppers, beets, cabbage, and carrots. In addition to traditional manufacturers, 12 participants were restaurant owners/operators who already purchase locally grown produce and were interested in expanding to a value added product in their kitchens in an attempt to further their brand.

A six month follow up showed that 10 companies were already utilizing their training with 17 new specialty crop products to the market some as a new business and others through adding additional products (acidified) to their existing line. Three attendees were in the process approval stage representing 9 additional products and the remaining 7 companies were interested in pursuing value added specialty crops but were constrained by lack of start-up capital.

- On February 17, 2011 (at the Small Farm Conference), fifteen participants attended the GHP/GAP training provided by Dr. Robert Williams from Virginia Tech. One attendee went on to successfully complete a GHP/GAP audit (hydroponics and greenhouse; greens, watercress, tomatoes, peppers).
- In October, 2011 another GHP/GAP full day workshop conducted by Dr. Robert Williams of Virginia Tech was conducted in Lewisburg, WV. Ten participants representing more than 25 specialty crop products attended.
- WVDA staff presented a brief GHP/GAP overview and its corresponding utilization in school food preparation with local foods during the 2011 West Virginia Farm to School Conference with 5 specialty crop producers looking to supply local food systems in attendance. Forty-five of the state's 55 food service directors were in attendance.
- WVDA staff presented GHP/GAP program objectives to a statewide meeting of the West Virginia Nutrition Directors meeting. The goal was to introduce institutional food service directors to local specialty crop acquisition, provide local farmer resources and correlate on farm requirements with program/regulatory requirements at the service level. Fifty-two attendees were present.
- A brief program overview of the GHP/GAP program was conducted by WVDA staff during the Tri-State Small Farms Conference in Huntington, WV on November 5, 2011 and again at the 2012 Small Farms Conference in Morgantown (February, 2012). Five growers were in attendance including the director of the newly formed Wild Ramp cooperative store who are selling fresh produce. (www.wildramp.org)

Beneficiaries:

A total of 149 students were introduced to grower, producer or processor education of specialty crops as a result of this project. In addition to knowledge gained, the introduction of new specialty crop products to the marketplace and implementation of regulated and voluntary practices not only makes these crops safer for the public, it also provides important market entry practices for outlet and distribution expansion.

Lessons Learned:

There is a definite interest in the integration of GHP/GAP principles from the farm (producer) to consumer (markets, schools and institutions). What has proved to be problematic is how to work on reducing the cost or making GHP/GAP certification a worthwhile economic investment. Small West Virginia farms have recognized the value of GHP/GAP principles but feel that the actual certification will not lead to increased purchasing by larger organizations; they feel like they have no incentive to invest in the program. This has led to difficulty in recruiting for training programs that many are asking for but are reluctant to take on once they review the curriculum and see that the class does not provide the actual certification.

At the user level (schools, markets, institutions), adoption of GHP/GAP principles and purchasing from providers is seen as another layer of paperwork and increased potential for violations by inspecting agencies (i.e. health department, FDA).

Development of a cost share program through a future SCBGP has been initiated to help overcome these objections. The addition of Cornell's online GHP/GAP training as a viable program delivery option may also increase interest and provide new participants in the program. Continued outreach and education is essential.

Contact Person:

Jean Smith, Director, Marketing & Development, (304) 558-2210



Miss Mona's



Greenville Garden



Spangler's
Greenhouse

“History of Beekeeping Display at Heritage Farm Agritourism Attraction”

Cabell Wayne Beekeepers Association

Amount Awarded: \$5,276.27

1. What was the issue, problem, interest or need for your project?

To assist small and beginning beekeepers from having to make the large financial investment in honey extraction equipment. And to assist small hobbyist to develop their honey production, marketing and sales of specialty food products.

This project was designed to address the issues of beekeeping production including lack of extraction equipment for small companies who can not afford the capital expenditures, develop value added and retail opportunity through the use of cooperative extraction equipment, lack of knowledge among students about the role of bees in the food cycle, and dispel the same concerns amongst adults. To accomplish this, the project utilized several financial resources to build a beekeeping display, develop a beekeeping curriculum aligned with state curriculum standards and incorporate the extraction equipment and provide access to it through incorporation in the beekeeping display.

2. How did you approach each of the issues or problems described in question 1? Match your project activities to the issues, problems and/or interests listed above.

The entirety of the grant was devoted to purchasing equipment, books, bees and supplies to assist small and beginning beekeepers to extract their honey and to encourage and assist small hobbyist beekeepers to develop their honey production, marketing and sales of specialty food products. These funds were exclusively purchased with SCBGP funds and no expenditures were duplicate in nature.

Once the beekeeping display was developed, it was crucial to place it in a location that would have the greatest impact and potential outreach to both children and adults. The Heritage Farm Museum was ideal in having the most exposure to children as the Farm’s records indicate that each year over 6,000 children from surround schools in the area attend the farm for school field trips.

The educational display was developed as a “touch screen” display. *(please see photos below)* The curriculum teaches how honeybees came to America, their important roles in our lives, and how easy it is for students and/or adults to become beekeepers. Students are able to view bees “working” in the farm, pollinating plants, and making honey. They also receive information in the nutritional aspect of honey and ultimately how to become an entrepreneur in the field of apiary.

3. What were the goals for the project?

The goals for the project were to assist small and beginning beekeepers to extract their honey and to encourage and assist small hobbyist beekeepers to develop their honey production, marketing and sales of specialty food products. The measurable metric for success was to have at least five (5) beekeepers make the transition from hobbyist beekeeper to commercial producer by selling their honey products.

4. For each goal listed in #3, describe how they were achieved.

The goals listed in # 3 were achieved by having an annual Honey Harvest sponsored by the Cabell Wayne Beekeepers Association where all members were assisted in extracting their honey for bottling and sale. Additionally, the beekeepers were taught the rules and regulations of the commercial sale of honey and other specialty food products, including labeling requirements.

The display was created and an educational curriculum developed that included learning objectives concerning the harvesting process of honey. On occasion when local beekeepers need to, the extraction process becomes a hands-on, interactive portion of the display while adding value and providing small beekeepers access to processing equipment (extractors).

Approximately over 6,000 students and adults have been exposed to the display and educational curriculum. The Farm Museum has documentation of all schools that visit the site, and of the individuals that have viewed the beekeeping display. Based on that documentation there were over 500 new visitors in addition to all of the students brought in on various field days. There were over 11 individual beekeepers that successfully made the transition from hobbyist beekeeper to commercial producer by harvesting and selling their honey in at least one retail outlet.



EDUCATIONAL OPPORTUNITIES WITHIN THE **HONEYBEE ADVENTURE**

General Learning Objectives

1. The honeybee's journey to and through America
2. The important role the bee plays today in all our lives

Honey Section

3. Products made from honey
4. Facts about honey
5. The honeybee lifecycle

Help Section

6. What You can do
7. How to become a Beekeeper

Heritage Section

8. The World Origins of the Honeybee
9. How the honeybee arrived in each of the 50 states

Hive Cam Section

10. The internal temperature of a bee hive
11. Participants can actually view bees as the live on the farm with the Farms Live Hive Cams

Hands On Section

12. The anatomy of the honeybee
13. Buzz Quiz → What a "Smoker is used for" → To keep bees calm
14. Buzz Quiz → What a bee veil is → Used for eye and ear protection
15. Buzz Quiz → what you should do to become a bee keeper → Go to a beekeeper and take a beekeeping class
16. Buzz Quiz → The first to utilize honeybees → Egyptians and Greeks
17. Buzz Quiz → How honeybees communication → The waggle Dance
18. Buzz Quiz → How many honeybees are in a hive → 80,000

5. Describe specific results, conclusions, lessons learned, success stories, testimonials or other documentation; use statistics and measurable results here.

Seven beekeepers made the transition from hobbyist beekeeper to commercial beekeeper as a result of this grant.

6. What were the long term outcome measures for the project? Describe the progress made towards obtaining these long term outcomes. Did the grant activities contribute towards achieving these goals?

The long term outcomes measures of the project were whether small and beginning beekeepers were able to extract their honey without having to make the large financial investment in honey extraction equipment, and to assist small hobbyist beekeepers to develop their honey production, marketing and sales of specialty food products. The progresses made toward obtaining these outcomes were excellent. The grant activities contributed toward achieving a success rate 40% above the projected outcome.

To date, 500+ students have participated in the honey curriculum. In addition to students and specific school tours, more than 6,000 members of the general public have visited the display.

An annual honey extraction day has been established and has been held for the past two years to bring members of the beekeepers group together and coordinate cooperative efforts.

CWBA ANNUAL HONEY HARVEST — JULY 23 9 am– 1 pm

The Cabell Wayne Beekeepers Association will hold its annual honey harvest for members only on Saturday, July 23rd from 9 am to 1 pm at the honey house of Gary Strickland [THANKS, GARY!!!] located at 330 30th St., Huntington, WV. Go around the back and down the alley between 30th and 31st St. You will see us right across from the bank parking lot about halfway down.

PLEASE email danno1800@gmail.com or call Gabe Blatt 304-429-1268 so we have your equipment available for you to take home your honey. **BEE SURE** and brush your bees off the honey supers or better yet blow them out of there with a leaf blower or use a fume board or triangle bee escape.

We look forward to seeing you there! — Dan O'Hanlon



CLAY GUTHRIE FROM DADANT TO SPEAK AT JULY 11TH CWBA MEETING

Clay Guthrie from Dadant will speak at our next meeting about Small Hive Beetles. Clay is willing to bring anything you order from Dadant's Frankfort location with him to the meeting. This will save you on the shipping. Please call Clay **IN ADVANCE** at 1-888-932-3268 to place your order. If you don't have their catalog handy, you can view their products and prices at www.dadant.com



List a contact person for the project with a telephone number and email address for future WVDA or USDA contact.

Contact person is:
Gabe Blatt, President
Cabell Wayne Beekeepers Association
3554 Haney's Branch Road
Huntington, WV 25704
(304) 429-1268
gabelblatt@frontier.com

"West Virginia Specialty Crops Promotion in a Regional Marketplace"

Mountain RC&D

Amount Awarded: \$13,811.56

Project Summary:

Providing expanded market opportunities for value added specialty food producers was the existing need identified by this project. Recognized as the largest holiday show in the Mid-Atlantic, the Southern Christmas Show provides a unique venue full of new potential customers, retail sales, sampling and interaction training and interest in agritourism related specialty crop products. By partnering with the West Virginia Division of Tourism and the Mountain Resource Conservation and Development Area, Inc. this project allows for economic development and learning on the part of the producers while **presenting a positive image of the state and its' agricultural products.**

Project Approach:

The project featured a 1,400 square foot exhibit (shop) at the show. Due to the location in the upscale section of the event, all booth decorations, lighting, floor covering and products were the **responsibility of the exhibitor. A "Country Store" theme was chosen** and the retail space was filled with WV products and sampling stations. In addition to the retail component, time on the demonstration stage highlighting West Virginia (and all) specialty crops during the holidays, statewide press releases, coupons enticing visitors and postcard invitations to inquiries to the state 800 number from the geographic region were added to the efforts in an attempt to boost interest and sales. Sampling stations and booth signage encouraged sampling on the part of visitors that translated into later sales. Lastly, vendors who provided product to the store were surveyed post-event to determine the volume of post-show sales and new customers obtained. Non-qualified specialty crops were removed from sales figures (the retail system was programmed to do this). The total project cost was \$98,545.00.

Goals and Outcomes Achieved:

The West Virginia "Taste of Christmas" booth featured 51 West Virginia specialty food vendors; 36 that manufactured specialty crop value added products that were sold during the event. The project was done in collaboration with the West Virginia Division of Tourism who promoted many agritourism operations that market and promote a myriad of West Virginia specialty crops.

In addition to the retail presence, 14 companies came to the event to sample and promote their products. A television interview with the metro FOX station and mention in a front page article of the Charlotte Observer coupled with a first place blue ribbon in the shop judging and

3 stage demonstrations completed a well-rounded presentation and successful event. Six other radio interviews promoting the booth and West Virginia specialty crops for the holidays (**with follow ups of "I heard you on the radio!"** at the booth) completed a full plate of media presence.

The stage presentations were particularly informative and will continue **for 2010. A session entitled, "Honey for Holiday Cooking" was** presented with state apiary specialist, Paul Poling. The flavors, colors and cooking characteristics of honey were discussed and then audience interacted with a tasting session and honey cookbook distribution. Another presentation explored specialty crops for the holidays. Presented dishes included squash pie, beet chocolate cake and presentation options with winter squash.

A gross retail total of \$51,770.51 was recorded for this event. When examining product breakdown, 61% or \$31,580.0 of the proceeds were from qualified specialty crop sales. A 12 month follow up of qualified companies documented new customer acquisition from show sales (when asked where they heard about the company when placing a follow up order) of 39 new individuals or retail outlets and additional sales of \$4,650. A total of 49 show invitation postcards or online coupons were redeemed. The West Virginia Division of Tourism reported a 7% increase in inquiries from the geographic area requesting tourism information to the state and they collected more than 2,100 leads as a result of their basket of West Virginia specialty crops promotion. Within their tracking system, the reported an increase in requests for bed & breakfast, gourmet dining and market attractions (i.e. orchards) at their booth due to the promotional efforts and signage.

Beneficiaries:

Participating specialty food companies were the direct beneficiaries of this project. Of the 14 companies who sampled, 11 had a full product line of value added specialty crops and 2 utilized their positive learning experience at the show to gather additional retail outlets (A Southern Season and follow up at local Kroger outlets) and one company went on to expand their base to national markets by participating in the NY Fancy Food Show the following year. The 150,000+ show participants had an opportunity to learn more about WV specialty crop products, agritourism attractions and follow up contact with vendors that build future business relationships.

Lessons Learned:

Difficulties in tracking post-show sales were an issue based on either non-response, failure to ask about product introduction or non-documentation. The event garnered significant media attention through its integrated approach to programming and marketing.

Contact:

Cindy Martel, Marketing Specialist
West Virginia Department of Agriculture
(304) 558-2210; cmartel@wvda.us

http://www.wvagriculture.org/news_releases/2009/11-17-09-a.html





Photos (top & left) by Joe Architect



2009 White House Blue Room Christmas Tree from West Virginia's Sundback Farm; signage in the WV Southern Christmas Show Booth featured photos of their trees and recognition of their honor.

Activities Performed

The 2009 Southern Christmas Show took place November 10-21 in Charlotte, NC. The West Virginia "Taste of Christmas" booth was 1400 square feet and featured 51 West Virginia specialty food vendors; 36 that manufactured specialty crop value added products that were sold during the event. The project was done in collaboration with the West Virginia Division of Tourism who promoted many agritourism operations that market and promotes a myriad of West Virginia specialty crops.

In addition to the retail presence, 14 companies came to the event to sample and promote their products. A television interview with the metro FOX station and mention in a front page article of the Charlotte Observer coupled with a first place blue ribbon in the shop judging and 3 stage demonstrations completed a well-rounded presentation and successful event. Six other radio interviews promoting the booth and West Virginia specialty crops for the holidays (complete with follow ups of "I heard you on the radio!") completed a full plate of media presence.

The stage presentations were particularly informative and will continue for 2010. A session entitled, "Honey for Holiday Cooking" was presented with state apiary specialist, Paul Poling. The flavors, colors and cooking characteristics of honey were discussed and then audience interacted with a tasting session and honey cookbook distribution. Another presentation explored specialty crops for the holidays. Presented dishes included squash pie, beet chocolate cake and presentation options with winter squash.

Problems and Delays

Proper coding of invoices separating out SCBP qualified products and better accounting processes to capture eligible expenditures on the part of the sub grantee will yield a closer to budget accounting in the future.

Future Project Plans

The 2009 event set a baseline of high sales for the event. Future funding for the 2010 and 2011 events were designed to further sales of value added specialty crops and to have the event serve as a forum to promote consumer use of specialty crops in holiday food preparation. The failing economy and addition of a North Carolina Department of Agriculture feature affected overall sales slightly in 2010 and the preparation of the final report from 2009 was delayed to determine the economic impact of the project over several years. The final report will reflect these findings and will be complete in January of 2012.

Funding Expended To Date

\$13,811.56 of SCBGP funds were expended.

Project Summary:

The explosion of marketing efforts and its correlation with successful and growing business is well documented and applicable to specialty crop producers and manufacturers. This project was designed to provide educational materials and means for specialty crop entities to capitalize on this opportunity through educational material development, program delivery (3 workshops) and internet based tools for promotion.

Please note that the project was to provide educational opportunities and internet tools. Difficulties with state purchasing requirements for software distribution made the second goal impossible. The remaining funds were reallocated to another project within this grant cycle.

Project Approach:

Two thousand three hundred fifty dollars of project funds were used to develop and deliver the three presentations from Matterhorn Marketing. Topics included the importance and tools of social media, social media content development and social media integration into marketing plans. Matterhorn developed the specialty crop specific information (gardeners for farm market sales, farmers market managers, on-farm produce markets and value added specialty crop manufacturers).

A total of 37 farm entities participated in one or more of the sessions that were covered in a day. Each class featured a customized handout highlighting specialty crop businesses throughout the state actively engaged in specialty crop sales electronically. Activities leading up to this activity included contacting two specialty crop producers (an orchard and farm market manager) to help establish the prevalence of electronic and social media usage and feedback concerning the development of the handouts with specialty crop specific examples. Once the handouts were approved, PowerPoint presentations for each program were prepared.

The remaining \$1,704.43 was reallocated to the *“Inwood and Logan Farmers Market Tourism Guide ad and West Virginia Specialty Crops Agritourism Guide ad”* activity to extend successful participation in the 2012 edition. This also included a social media presence in the guide

Goals and Outcomes Achieved:

The project accomplished its educational component through workshop and handout delivery. Participation by 39 diverse specialty crop organizations demonstrated the potential audience and interest in this topic. Providing tools for knowledge implementation, however, proved to be problematic and did not allow the project to reach its potential and actual outcomes.

Beneficiaries:

The beneficiaries of this project were the 39 workshop participants. At least 8 participants added a social media or interactive electronic (i.e. blog or Facebook page) as a result of the programs within 6 months of completion. The inability to incorporate tracking tools made determination of any economic value impossible.

Workshop participants represented a wide range of beneficiaries for this project and included orchard operators, farmers market managers, farmers market vendors, on-farm produce stand operators, and value added specialty crop producers.

Lessons Learned:

The three presentations included a “deliverable”; a worksheet with how-to features. These handouts developed to specifically help specialty crop producers and manufacturers capitalize on social media have been used in subsequent meetings and presentations. This means that the reach of this educational material has been exponential.

State contracting issues did not allow the remaining funds for this project to be completed and served as notice that in addition to federal allowable and unallowable expenditures, care should be made to address the viability of a project proposal based on this consideration.

Contact:

Cindy Martel, Marketing Specialist
West Virginia Department of Agriculture
(304) 541-9756; cmartel@wvda.us

“Mobile Extractor Program”
West Virginia Department of Agriculture
Amount Awarded: \$5,400.00

Project Summary:

The availability of extractors for honey producers is critical to maximizing harvest and providing additional product to a market that is in heavy demand by consumers. In West Virginia, 1,169 beekeepers are registered with hive counts ranging from 1 to several hundred with the average hive count <5. The dominance of many small farmers in the market make the need for maximum harvest essential to an extremely diverse enterprise. The availability of harvesting equipment on a regional basis would allow production increases to this specialty crop commodity.

Project Approach:

To meet the identified need stated in the project summary, eight mobile extractor kits were purchased and established for use in eight regions of the state. Utilizing the strength of local beekeeper organizations for maintenance and operation, state apiary state assembled kits with the extractor, instructions, tools and log books.

Within each region, local groups made the extractors available on a scheduled basis to extract honey and document their yields.

Goals and Outcomes:

Kits were established in three regions.

Region	Counties/Group(s)	Pounds of honey produced	Number of beekeepers
Region 1	Cabell-Wayne Beekeepers, Corridor G Beekeepers, Kanawha Valley Beekeepers, Lincoln County Beekeepers	950 pounds	3
Region 2	Mid Ohio Valley Beekeepers, Jackson County Beekeepers, Tri-County Beekeepers	468 pounds	5
Region 3	Clay County Beekeepers, West Central Beekeepers	1,809 pounds	3
Region 4	Mercer County Beekeepers, Nicholas County Beekeepers, Southeastern Beekeepers Association	800 pounds	4
Region 5	Upshur County Beekeepers, Barbour County Beekeepers, Preston County Beekeepers, Tucker County Beekeepers	994 pounds	5
Region 6	Central West Beekeepers,	945 pounds	7

	Gilmer County Beekeepers, Webster County Beekeepers		
Region 7	Eastern Panhandle Beekeepers, Hampshire County Beekeepers	1,800 pounds	12
Region 8	Marion County Beekeepers, Monongalia County Beekeepers, North Central Beekeepers, Tri-State Beekeepers	1,200 pounds	7
TOTALS		8,966 pounds*	46+ beekeepers

***For period of Fall, 2010 through Spring, 2012**

Beneficiaries:

The beneficiaries of this project are clear. The 46 beekeepers who were unable to adequately harvest their honey for sale benefit through additional product to be sold. The industry benefits through the sustainable membership that the project generates. Lastly, consumers benefit through increased supply of this locally grown specialty crop.

Lessons Learned:

Geographic distribution throughout the state is an issue with any statewide project. Additional units purchased beyond SCBGP funds seem to have alleviated part of this problem.

Reporting and scattered reports of failure to upkeep equipment (i.e. clean unit) are being addressed by WVDA and the apiary staff.

Contact:

Paul Poling, State Apiarist for West Virginia
ppoling@ag.state.wv.us
304-558-2210

“Measuring the Effectiveness of Electronic Marketing of Specialty Crops”

Ridgefield Farm

Amount Awarded: \$10,000.00

Project funds reallocated to *“Inwood and Logan Farmers Market Tourism Guide ad and West Virginia Specialty Crops Agritourism Guide ad”*.

“From West Virginia to Urban Markets”

Tamarack Foundation

Amount Awarded: \$6,000.00

Project Summary

This project provided the opportunity for two West Virginia specialty crop producers to participate at the “Buyers Market of American Craft” show in Philadelphia under the TAMARACK: The Best of West Virginia and Tamarack Foundation umbrella. The purpose of the project was to expand business and increase income while providing a vehicle for consideration of hiring apprentices or expanding the workforce. **The project addressed the interest in expanded gift lines that incorporate the locally grown/small farm niche and sales potential of value added specialty crop items in the gift arena.**

Project Approach

The “Buyers Market of American Craft” is the nation’s largest wholesale tradeshow for artists who make their work by hand in the United States and Canada. The show is held twice annually. This project participated in the February Market at the Pennsylvania Convention Center in Philadelphia.

The show provides face-to-face communication when attracting and building lasting business relationships. It is the mission of the Buyers Market to provide the tools and systems that keep producers in their facilities (kitchens) doing what they love, while at the same time making a living.

Wendy Rosen, owner and producer of the “Buyers Market of American Craft,” decided to expand the show to include “consumables” as a point of sale items. West Virginia was the first state to showcase specialty crop products.

The project included the following components: 1.) selection of participating companies based on ability to exhibit at the event and capacity to provide products after sales contacts made; 2.) specialty crop producer training including boothmanship; 3.) photography and development of show manual graphics, booth design and pre-show postcards mailed to prospective buyers; 4.) show participation; 5.) two post-show follow up evaluations.

Companies selected included Tamarack juried artisans who were engaged in the manufacturing and sales of value added specialty crops (salsa, honey) who had production capacity to fill orders and provided high end packaging appropriate for the gift market niche. The two companies selected met the criteria of value added specialty crop manufacturing.

Goals and Outcomes Achieved

With a commitment of over \$100,000 to the West Virginia presence at the show by the WV Development Office, the show yielded extremely positive results including those to the two specialty crop producers.

Based on the post and post show results, specific data from the specialty crop participants included the following:

Total orders (new accounts): \$4,246

Total orders (existing accounts): \$0

Total wholesale accounts opened: 25

Total additional wholesale accounts potential to open: 14

Ability to hire full or part-time employee: No and one had added hours to part-time hours

Employee retention as a result of participation in the show: If potential companies come through, one of the company planned on adding another part-time employee while the other planned on being able to retain through part of the traditional slow season.

Participation in future shows: Yes from both

The specialty crop contribution to the total show results (orders-new accounts) was 7%.

Beneficiaries

This event was impactful to the two companies participating. An added benefit was forging a positive presence that will allow future specialty crop companies' the opportunity to participate in this event. Buyers were able to add additional products to their retail mix as a result of this activity.

The event featured two days of "trade only" interaction and one day open to the general public for the WV exhibitors. Attendance was estimated at 4,000 buyers and 30 media representatives with an additional 1,300 on the day open to the public.

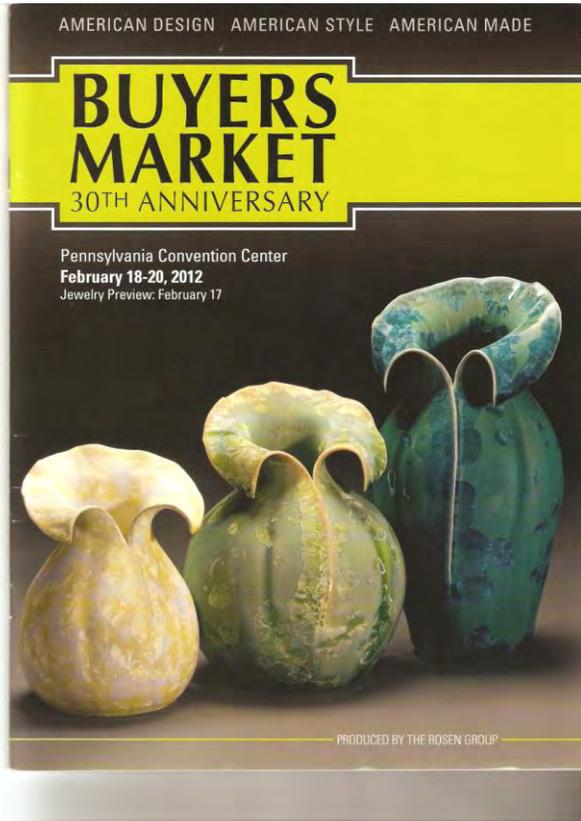
Lessons Learned

The importance of an upscale presentation was critical to the success of this project. Overall, the project coordinator felt that this was a much more beneficial (in both financial and result data) show than the Kentucky Crafted event. A focus on the increase of the total contribution to the show from 7% would be a future goal for this project. It should be noted, however, that the average price per item of other products-non specialty foods ranged from \$25 to several hundred dollars so volume must be considered in the impact.

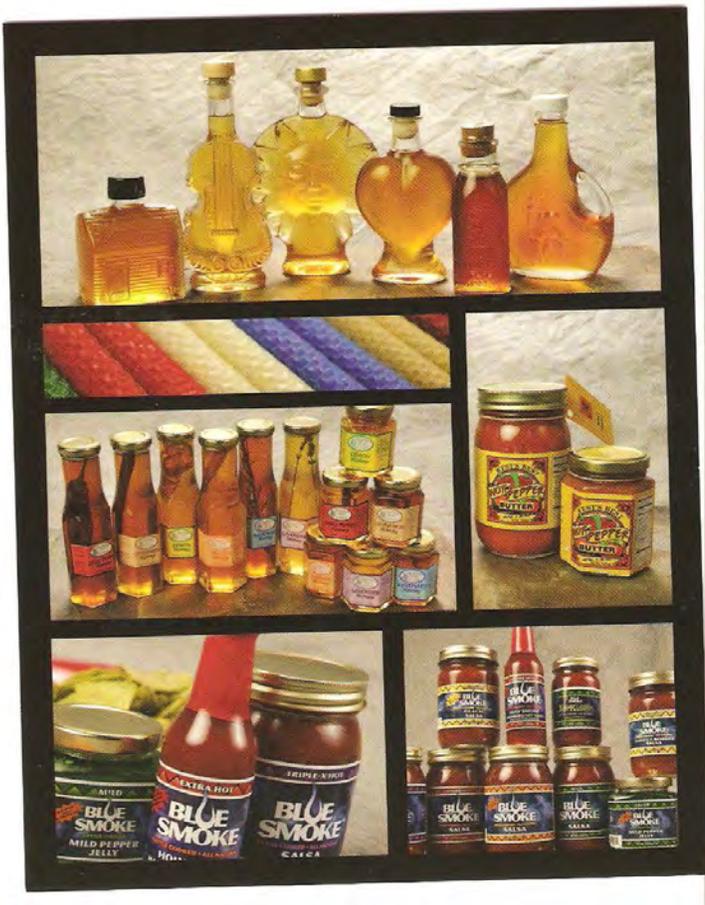
Contact Person

Ron Dewitt, Tamarack Foundation
(888) 262-7225, Ext 155

http://www.wvcommerce.org/news/story/WEST_VIRGINIA_CRAFTERS_PRACTICE_THE_ART_OF_BUSINESS_EXPANSION/2566/default.aspx



Cover of show magazine (two specialty crop ads below)



Postcard with two specialty crop companies' contact on the back.



Blue Smoke Gourmet Salsa

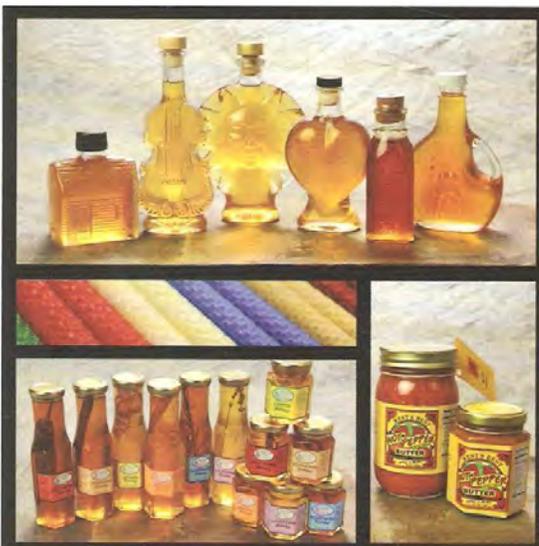
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Booth # 1725

“2011 International Master Gardeners Conference: Promoting Specialty Crops from the Garden”

West Virginia Department of Agriculture

Amount Awarded: \$3,149.44

Project Summary:

In October of 2011, more than 1,000 participants gathered for the International Master Gardeners' Conference which was held in Charleston, WV. The Master Gardener group is a nationally administered educational program through Extension utilizing education, growing, gardening and community service as a powerful peer training program. Participation in the conference by the West Virginia Department of Agriculture allowed a Country Store of value added products to be on display along with other materials (banners, etc.) to focus on the benefits of value added crop production in order to highlight the economic advantage gained by further processing.

Project Approach:

Participation in the event was multi-faceted. The conference opening featured a buffet for all with West Virginia fresh and value added crops featured. These included tomatoes, greens, ramps, relishes, pickles, peppers, pepper mustard, pepper butter, pepper jellies, carrots, squashes, pumpkins, etc. The opening ceremony also featured decorations from Bob's Greenhouse highlighting the state's greenhouse and horticulture industry.

The project provided for banners featuring specialty crops (value added, honey, fresh vegetables and flowers). These were utilized at a 10 x 20 "Country Store" set up to feature value added specialty crop. The focus was on providing a follow up opportunity to purchase items featured in the previous night buffet and connect manufacture with consumer. Customers were asked about their dining experience the night before to insure a correlation between items purchased and eaten the previous evening. Products featured included jams, jellies, sauces, condiments, and honey. Most popular item was honey. The most popular item was honey. Total value of items purchased was \$525.00

Goals and Outcomes Achieved:

While the project did not attain its sales goal, the variety and quantity of specialty crops utilized in this event was tremendous. Twenty specialty crop entities/companies provided items for the menu on the opening ceremony. Fifteen value added companies provided product to the store. Ninety-one percent of store patrons correlated their purchase with the previous evening events while 7% were not in attendance the night before and 2% were unsure.

The banners featured specialty crops and were used as the backdrop for the store. Specialty crop cookbooks and the Foods n' Things listing of fresh and value added specialty crop contacts was included in each purchase to encourage repeat orders.

Beneficiaries:

The 35 companies that provided specialty crop product to the event (dinner and store) were the first-level beneficiary. Other beneficiaries were the event attendees.

Lessons Learned:

This one-time event was very focused on specialty crops; their production, sales and utilization. Travel constraints (many visitors to the store were reluctant to purchase due to travel restrictions)

and event logistics (a fire and alarm resulted in a 90 evacuation of the Convention Center) limited sales. The dialogue between event staff and participants did provide insight into the interest and potential for the incorporation of value added production considerations into the Master Gardener curriculum.

Contact:

Jean Smith, Director, Marketing & Development
West Virginia Department of Agriculture
(304) 558-2210; jsmith@wvda.us

“Kentucky Crafted Marketplace”

Tamarack Foundation

Amount Awarded: \$2,125.00

Project Summary

Developing new wholesale accounts for value added specialty crops allows businesses to grow and expand their market reach. This project provided booth space and technical support for five value added specialty crop manufacturers to participate in the regional Kentucky Crafted event to address the need for additional markets and niches for value added specialty crop products.

Project Approach

The five companies selected to participate were provided cost share on booth space and required to participate in a training program (provided by Tamarack) to participate in the event. Topics covered included boothmanship, set-up, sales, presentation and follow up techniques.

Companies that participated met the following criteria: currently a juried artisan in the Tamarack system in the gourmet foods section, positive sales growth in the last three years, expressed desire to expand marketing efforts and new market identification, professionally designed and printed labels, and positive customer feedback. A panel of three Tamarack buyers reviewed the brief interest form provided to those interested in participating and they selected the five companies (an expansion from the original 4 proposed).

Participating companies were asked to sign an agreement outlining their event responsibilities (i.e. lodging and meal payment, willingness to participate in training sessions, ability to contribute to consistent booth/state interest and willingness to share sales data). Each participant was provided a binder with boothmanship information and general marketing tips including follow up procedures.

The five participating companies were Blue Smoke Salsa (tomatoes, onions, peppers), Dark Hollow Foods (tomatoes), Up The Creek (peppers, strawberries, onions), ThistleDew Farm (honey, peppers) and Three Little Pigs (tomatoes).

The event featured two days of wholesale participants (businesses looking to carry products) and one consumer day where companies were able to sell their products to the general public.

Goals and Outcomes Achieved

Show results included 2 actual account acquisition and 6 potential; \$3,580.60 of retail sales and \$735.00 wholesale sales tracked.

Each participant received a three-ring reference binder after completion of the event training for future reference.

Participant responses included the fact that the event was well organized, high quality.

Beneficiaries

The beneficiaries of this project were the five participating companies (increased accounts and economic development of their specialty crop product) and their specialty crop suppliers (peppers, tomatoes, etc.)

Attendance data from the show list 600 buyers from 16 states as the primary audience while another 8,000 visitors joined the event on the day(s) open to the public. These estimates were a little on the heavy side in the estimation of the project coordinator.

Lessons Learned

Overall, the show, both in terms of qualified specialty crop sales and non-eligible sales, was down due to the economic situation. This resulted in less wholesale customers. Support of Kentucky vendors was particularly problematic.

The show is moving to Lexington in hopes of attracting more wholesale buyers especially in the lucrative gift market. Although this may be beneficial to the show organizers, it does not appear to be a good fit for West Virginia specialty crop producers. The presence of primarily Kentucky food products and a Kentucky audience did not seem to generate interest in WV products. Although the show organizers continued to express a desire for West Virginia value added specialty crops, the grant sponsor felt other events (i.e. Buyer's Mart of American Crafts) would be a better fit for the products and maximize their investment in show participation.

The post 12 month evaluation of the event yielded no additional results. The grant organizer felt that the event did not accomplish its objectives due to the economic downturn and a lack of interest with Kentucky having such a large presence at the event. The feedback and decision was to go to another event with these products for greater economic impact.

Contacts

Ron Dewitt, Tamarack Foundation
(888) 262-7225, Ext 155

“Inwood and Logan Farmers Market Tourism Guide ad and West Virginia Specialty Crops Agritourism Guide ad”

Ridgefield Farm

Amount Awarded: \$

Project Summary

Providing a connection between tourists (the state’s 2nd leading industry) to specialty crops grown in West Virginia is critical in order for agriculture to receive a piece of the economic “pie.” This project attempted to identify, promote and train agritourism businesses that had specialty crop production through targeted print and social media options. **Access to qualified leads for specialty crops grown in the agritourism sector can be difficult to obtain and qualify. The utilization of an existing tourism mechanism to provide qualified/interested trade leads along with promotional opportunities at farmers markets provided the mechanism to address these concerns by generating and distributing pre-qualified leads**

Project Approach:

The 2011 and 2012 editions of the annual West Virginia Tourism Guide were targeted for this activity. With production of over 300,000 copies, this four-color publication is distributed at Welcome Centers, trade shows and as a fulfillment piece for inquiries to the state 800 number. Small ads for the Logan Farmer’s Market and Inwood Farmers’ Market provided a geographic interest reference for use in follow up. A more general agritourism ad promoting culinary tourism (specialty crops) and locally focused restaurants coincided with the publication editorial. Readers were driven to social media resources (Facebook) and reader response.

Leads were shared with qualified agritourism operators for follow up. After the 2011 edition, lack of follow up knowledge and technique was expressed by participating farms so additional leads, culmaltive leads, instructions and follow up recommendations were provided to 19 entities at the 2012 Small Farms Conference in February.

In February of 2012, a spot on the editorial edition of the state enewsletter produced by the WV Division of Tourism opened up. Produced in concert with the Tourism Guide this targeted advertising mode booked months in advance and inquiries are driven by the Tourism Guide publication. Contracted, paid and produced prior to the end of the grant, the analytics provided (attached) are much more effective at demonstrating tracking and project efficiency. This article featured the Capitol Market and the outdoor vendors selling specialty crops.

Utilization of only specialty crop products and elimination of any reference to non-qualified products allowed this project to stay focused on specialty crops. Postcard respondents to the ads produced meant that the project was on task and generated interest. Leads were only provided to entities that had fresh fruits and vegetables and/or value added specialty crops in their product line.

Goals and Outcomes Achieved

	Inwood Farmers Market	Logan Farmers Market	WV Grown/Country Store (state ad)	Total
# of Facebook	72	52	315	439

“Friends”				
Number of Leads Shared-2011	1090	1094	1071	3255
Number of Leads Shared-2012 (to date 7/30)	956	716	1354	3026
Number of specialty crop agritourism entities participating in lead share-2011				14
Number of specialty crop agritourism entities participating in lead share-2012				22

NOTE: An additional 2,679 leads from the Southern WV Convention and Visitors Bureau (lead response for cooperative ad placement including Southern Living, Redbook and Group Traveler Magazine) shared with 12 southern WV agritourism (with specialty crop products) entities.

Beneficiaries

The beneficiaries for this project included the agritourism community with specialty crop product (pick your own, orchards, farmers markets, locally focused restaurants with specialty crop menu items and others), 300,000 inquiries that were fulfilled with the publication and travelers to the state.

Lessons Learned

The response to the ads themselves within the tourism community has been outstanding. Leads to date show an interest in the specialty crop agritourism from travelers and the 300,000 people who receive the publication. Unfortunately, by the time the leads reach the specialty crop entities who can capitalize, there is a time lag on the customer that is the subject of the follow up, does not remember the origin of their introduction to WV specialty crops. This demonstrates a definite need for integrated marketing efforts. The effectiveness and tracking of the article/enewsletter concept is providing more trackable results that are much more quantitative but space reservation and ultimate visitor tracking is still an issue.

Contact

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INWOOD
Farmers' MARKET

Come Taste the Freshness!

178 Pilgrim Street • Inwood • West Virginia
(304) 229-5011

[/inwood Farmers Market](#)

10,

West Virginia Department of Agriculture
Gus R. Douglass, Commissioner
USDA Specialty Crop Block Grant



1.800.CALL WVA

HEALTHY PRODUCE = HEALTHY LIVES

LOGAN FARMERS MARKET

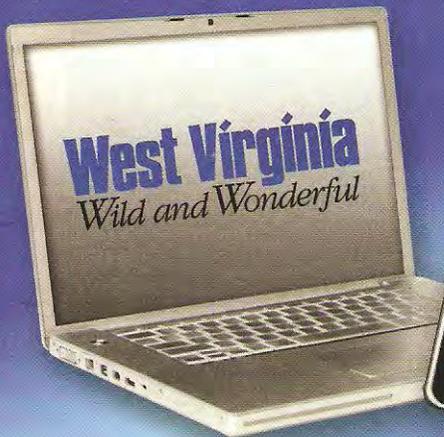
County Route 119/90 • Pecks Mill, WV
(304) 792-7017

[/Logan Farmers Market](#)

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SOCIAL MEDIA GUIDE



WEST VIRGINIA TRAVEL UPDATES AT THE TIP OF YOUR FINGERS!



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WEST VIRGINIA'S STATE LINKS:



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www.facebook.com/ACEadventureResort.WestVirginiaVacations



LOGAN FARMERS MARKET
www.facebook.com/MartinsburgBerkeleyCountyChamberofCommerce#!/pages/LoganFarmers-Market/176668645698980?v=wall



CLAY CENTER FOR THE ARTS & SCIENCES OF WEST VIRGINIA
www.facebook.com/claycenter



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GREATER MORGANTOWN CONVENTION & VISITORS BUREAU
www.facebook.com/pages/Greater-Morgantown-Convention-VisitorsBureau/141338065880155



MARTINSBURG-BERKELEY COUNTY CVB
www.facebook.com/MBCCCVB



GREENBRIER VALLEY, WV
www.facebook.com/GreenbrierValleyWV



MERCER COUNTY CONVENTION & VISITORS BUREAU
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HATFIELD-McCOY TRAILS
www.facebook.com/trailsheaven



NEW RIVER GORGE BRIDGE DAY
www.facebook.com/bridgedaywv



INWOOD FARMERS MARKETS
www.facebook.com/MartinsburgBerkeleyCountyChamberofCommerce#!/pages/Inwood-Farmers-Market/373080447173?v=wall



POCAHONTAS COUNTY CONVENTION & VISITORS BUREAU
www.facebook.com/pccvb



JEFFERSON COUNTY CONVENTION & VISITORS BUREAU
www.facebook.com/WVEasternGatewayFanPage



RIVER EXPEDITIONS - WEST VIRGINIA
www.facebook.com/raftinginfo

You Tube



AMERICAN MOUNTAIN THEATER, INC - www.youtube.com/americanmnttheater



Advertiser Report

Don't Miss the Wild & Wonderful birthday bash

Advertiser: WV Agritourism

Deployment Date: 6/14/2012

Date Results Gathered: 7/25/2012

Email Delivery				
Total Sent	Total Delivered	Delivery Rate	Total Open	Open Rate
370,354	368,808	99.58%	30,355	8.23%

Sponsored Content Click Throughs – Featured Article		
	Total Click Throughs	Click Through Rate on Opened
Article	596	1.96%
Event	104	0.34%

Social Media	
Network	Posts
Facebook	61
Twitter	23
MySpace	26
Digg	21
Bebo	23
Delicious	22
Reddit	30

Benefits of Email Marketing
Email marketing is an extremely cost-effective marketing tool.
Email marketing is a permission-based asset, meaning that those who sign up have given you permission to share and communicate with them.
Email marketing is proactive and enables you to communicate with a qualified audience.
Almost everyone uses email.
Email can be used to drive engagement on websites, blogs and social media pages.

You are receiving this message because you signed up for West Virginia e-mails. Use this link if you wish to unsubscribe.

Share this email on:



WEST VIRGINIA DAY! June 20 marks the Mountain State's birth. Celebrations abound as the state also looks ahead to its 150th Anniversary in 2013. [FIND OUT MORE](#)

BURNING ROCK Outdoors
 Get Away with the Guys or Snuggle Up with Your Sweetie [READ MORE](#)



Stay and Play in Southern WV!
 Beckley - Raleigh County



State FARMS & MARKETS If spring fever has you itching to explore the bountiful nature of West Virginia, adventure awaits at the beautiful and numerous farmers markets sprouting up this time of year. [READ MORE](#)



Greenbrier RIVER TRAIL
 A Wild and Wonderful Experience [READ MORE](#)



EVENTS

Sundays
 June 10-Sept 30
 History Center
 Museum
 Buckhannon, WV

Tour a new exhibit exploring history as told by a photographer, artist and writer. [DETAILS](#)

July 1, 2012
 Independence Day
 Adairland Mansion,
 Philippi

Enjoy a picnic, games, music, house tours and more. Click or call for more information. [DETAILS](#)

Wednesdays
 July 11-Aug 1
 Capitol Market at the Capitol
 WV State Capitol

Pick up fresh produce, fruits and WV goodies when market vendors set up at the Capitol. [DETAILS](#)

HOT DEALS

B.O.G.O. RAFTING OFFER
 New River Gorge
 Each Tuesday, buy one trip at the regular rate and get the next trip for half price. Save up to \$50. Stay in a deluxe or luxury cabin during your visit! [READ MORE](#)

