# *Planning for an Agricultural Future in Giles, Montgomery, and Pulaski Counties*

**An**
**Agricultural**
**Regional Assessment**

**For**

**The New River Valley**
**Agriculture & Agritourism Project**
**Management Team**

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**This document was written and prepared by Matson Consulting, LLC:**

Matson Consulting, LLC
PO Box 661
Aiken SC 29802
Phone: 803-233-7134
Fax: 803-233-7938
www.Matsonconsult.com

Matson Consulting has excelled in its mission of offering business expertise that enables rural business to succeed. Principle and Partner James Matson and staff have worked within multiple industries and with hundreds of entities to provide valuable analysis in the creation studies, plans, and reports. Over the years, the firm's main focus has been the creation of feasibility studies and business plans for agricultural value added and local food ventures. As the business has grown, they have extended their reach to include other rural businesses and significant work with development centers and local governments.

Matson Consulting provides a high level of professional expertise to support Rural Development Organizations in the delivery of their services for agricultural producers. Matson and staff have significant experience multiple areas of technical assistance, including

- Association Formation
- Management Consulting
- Strategic Planning
- Institutional Capacity Building
- Grant Management

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## Agriculture and Forestry Industries Development Fund (AFID) Grant

The AFID Grant was first introduced in 2012 during a General Assembly session. Small businesses or soon to be businesses that are interested in growing and adding value to the local agricultural and forestry industry are eligible for this grant. Grant funds can allow for the farmer or producer to obtain the financial support they need to make their business a success. The grant allowance depends on a couple of different factors: "AFID grants are made at the discretion of the Governor with the expectation that grants awarded to a political subdivision will result in a new or expanded processing/value-added facility for Virginia grown agricultural or forest[ry] products."[1] The amount of the Grant also depends on a crucial factor: "The amount of an AFID grant and the terms under which it is given are determined by the Secretary of Agriculture and Forestry and approved by the Governor. An AFID grant is awarded…with the expectation that the grant will be critical to the success of the project."[2] The AFID grant award for this project was $35,000.

## Community Development Block Grant (CDBG)[3]

The Virginia CDBG provides funding to eligible units of local government for planning and implementing projects that address critical community development needs, including housing, infrastructure and economic development. The goal of the CDBG is to improve the economic and physical environment in Virginia's communities through activities which primarily benefit low- and moderate-income persons, prevent or eliminate slums and blighting conditions or meet urgent needs which threaten the welfare of citizens. Under this program, eligible localities may apply for Planning Grants for project development or Community Improvement Grants for project implementation. Units of local government in non-entitlement localities are the only eligible recipients of VCDBG funding. Localities may partner with planning district commissions, nonprofit organizations and other entities to undertake project activities. A grant of $30,000 was awarded for this project by the VA Department of Housing & Community Development.

[1] (2014). Governor's Agriculture and Forestry Industries Development Fund (AFID). Virginia Department of Agriculture and Consumer Services Website www.vdacs.virginia.gov/agribusiness/afid.shtml
[2] Staff/Contributed Reports. (November 2013). Development funds aid agriculture and forestry. Rappahannock News Website www.rappnews.com/2013/11/14/development-funds-aid-agriculture-and-forestry/125967/
[3] www.dhcd.virginia.gov "Community Development Block Grant" page. Accessed 5-20-14.

## STRATEGIC PLANNING METHODOLOGY

To address the objectives listed above, the consortium has utilized the following methodology for the creation of this plan.

The objectives of this planning process which were identified to help the ***Agriculture and Tourism Consortium*** are:

- ✓ Evaluate the existing state of agricultural activities and determine their success and viability
- ✓ Identify alternative agricultural entities and market options available to the tri-county area that will enhance current agricultural industry operations and increase economic development.
- ✓ Provide examples and case studies of successful agriculture programs.
- ✓ Determine estimated prospective revenues for potential alternative agricultural operations.
- ✓ Identify regional partnership opportunities in agricultural development.
- ✓ Identify national, state, or local regulations and policies would inhibit agricultural development in the tri-county area.
- ✓ Develop an implementation strategy and projected personnel work load.

The following is a proposed mission statement for the project:

*"A strategic plan that helps the tri-county area focus on agricultural development incorporating the needs of traditional commodity based farming (beef cattle and forestry) with emerging new agricultural opportunities (agritourism, grapes and wineries, and value added production and marketing). This plan will combine the skills and resources of the public sector with the realities and needs of the farming community to enhance profitability, sustainability, and quality of life for future generations."*

## Consultancy Timeline

The consultants were engaged with the creation of this plan between March and September 2014. To achieve the above stated objectives, the consultants conducted the following processes during this timeframe.

## Plan Development Process

A local agricultural development plan was constructed, identifying threats and opportunities, organizing recommendations, and outlining action steps, priorities, and overall implementation. Determinations were made regarding infrastructure needs and marketing opportunities for increased profitability and long-term viability of the agricultural community. Feedback from partners, local leaders, and stakeholders was incorporated to revise and refine the plan. The following processes were used during the construction of this plan.

- **Research and Data Collection**
  Literature and database searches were completed, results reviewed, and conclusions drawn. Existing tri-county literature was considered to serve as a source for the historical and agricultural context of the plan. As part of this information, the consultants used recent, credible studies and high quality resources to serve as a starting point for this study. Data was gathered to support different claims, including government statistics and the knowledge of the consultants. Information utilized from these documents has been included and cited throughout the document.

- **Client and Third Party Meetings**
  The consultants conducted face-to-face meetings with the client. These visits included strategic information sessions, conference calls, and roundtable meetings with various key representatives to clarify information. Consultant staff attended and participated in numerous meetings with producers and county leadership in Giles, Montgomery, and Pulaski counties to capture anecdotal information unique to each county.

- **Field Investigation**
  Consultants also engaged directly with people in the field including meetings with the Virginia Farm Bureau and other local entities. Consultants also conducted phone interviews with producers, business owners, and other local figures. This field work with diverse groups and individuals within the agricultural development communities of the region help add perspective and nuance to the development plan.

## Strategic Plan Document

The results of the above listed processes are presented in the completed strategic plan document. This document attempts to capture the overall vision of the development committee to consolidate their efforts into a unified strategic plan.

**Document Organization**

This document was organized in a logical and concise manner to facilitate ease of use. The beginning of the document presents general background information about each county involved to provide a framework for the strategic plan. The document is organized on a section by section basis based on the five areas established. Each section is divided into the following subsections.

- **Information Presentation:** The first part of each section will present the relevant information including data collected through research, meetings, and field investigations.

- **Analysis:** Each section will also contain the consultants' analysis of the information presented. This analysis has informed the recommendations found at the end of the document.

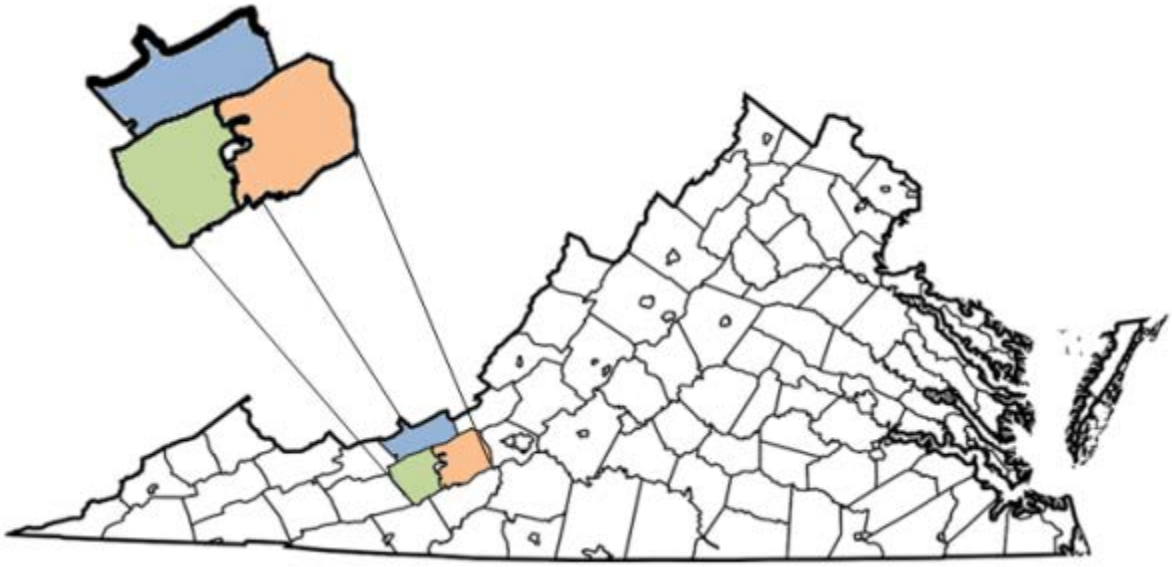
- **Examples:** Examples of relevant entities and businesses have been included to give tangible models for points made within the plan. These examples include those found both within and outside the region. These examples are indicated with the icon as shown on the right.

**Recommendations**

All of the above processes and information gathered has been combined into recommendations by the consultants based on the categories presented in the study. An action plan has been included to give a timeline and priority rankings for projects and activities based on recommendations as the development committee moves forward to enact the strategic plan.

**Appendices**

The document's appendices contain research and additional information to support the main sections of the document.

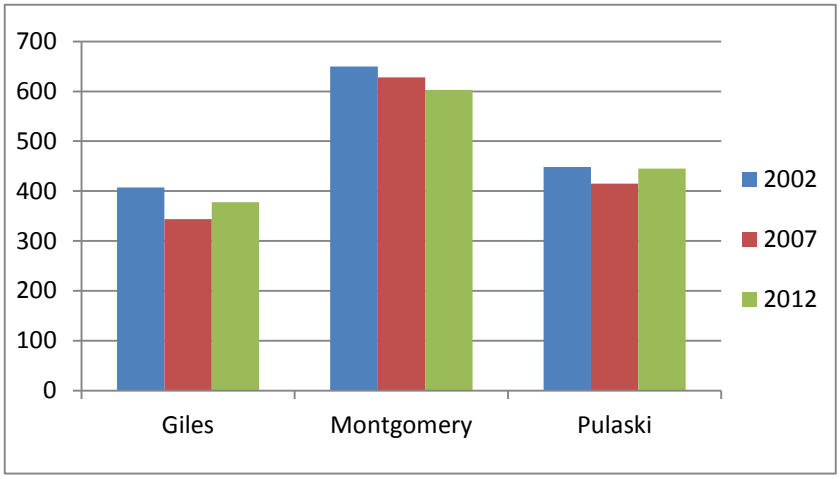


# TRI-COUNTY BACKGROUND & CHARACTERISTICS

The three counties that are the focus of this plan are part of the New River Valley (NRV) region in Virginia and are comprised of Giles, Montgomery, and Pulaski counties. These counties are located between the Blue Ridge and Appalachian Mountain Ranges in Northwestern Virginia. The area is home to the City of Radford, as well as the Towns of Blacksburg and Christiansburg. The region is serviced by two major interstate highways, I-81 connecting Knoxville, Tennessee and Roanoke, Virginia, as well as I-77 connecting Charleston, West Virginia and Charlotte, North Carolina.

The agricultural trends of each county are highlighted below. These trends include the number of farms, the market value of each product sold, and the average farm size for each county. This information is presented to help give relevant background information about the agricultural industry for Giles, Montgomery, and Pulaski counties. This information was gathered from the National Agricultural Statistic Service's Census of Agriculture for 2002, 2007, and 2012.

**Figure 1: Number of Farms by County**




As shown on the figure to the left, the amount of farms in each county has fluctuated slightly without major decreases or increases between 2002 and 2012. Montgomery County continues to contain the most farms even after experiencing decreases over the ten-year period. Giles County contains the least amount of farms but is not far behind Pulaski County.

**Figure 2: Market Value of Products Sold ($1,000)**

Although Montgomery County has consistently contained the most farms, in recent years, Pulaski County has had the most market value for their products sold. All counties experience an increase in product value between 2007 and 2012 but the value of Pulaski County products significantly increased during this time period.

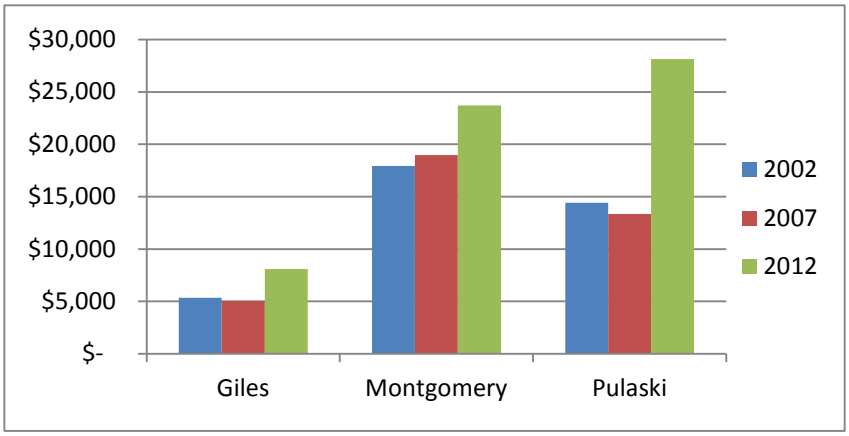
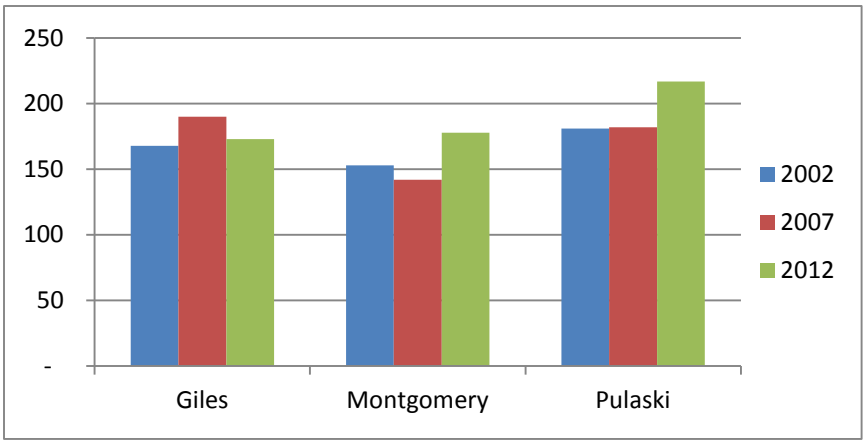



**Figure 3: Average Farm Size (Acres)**



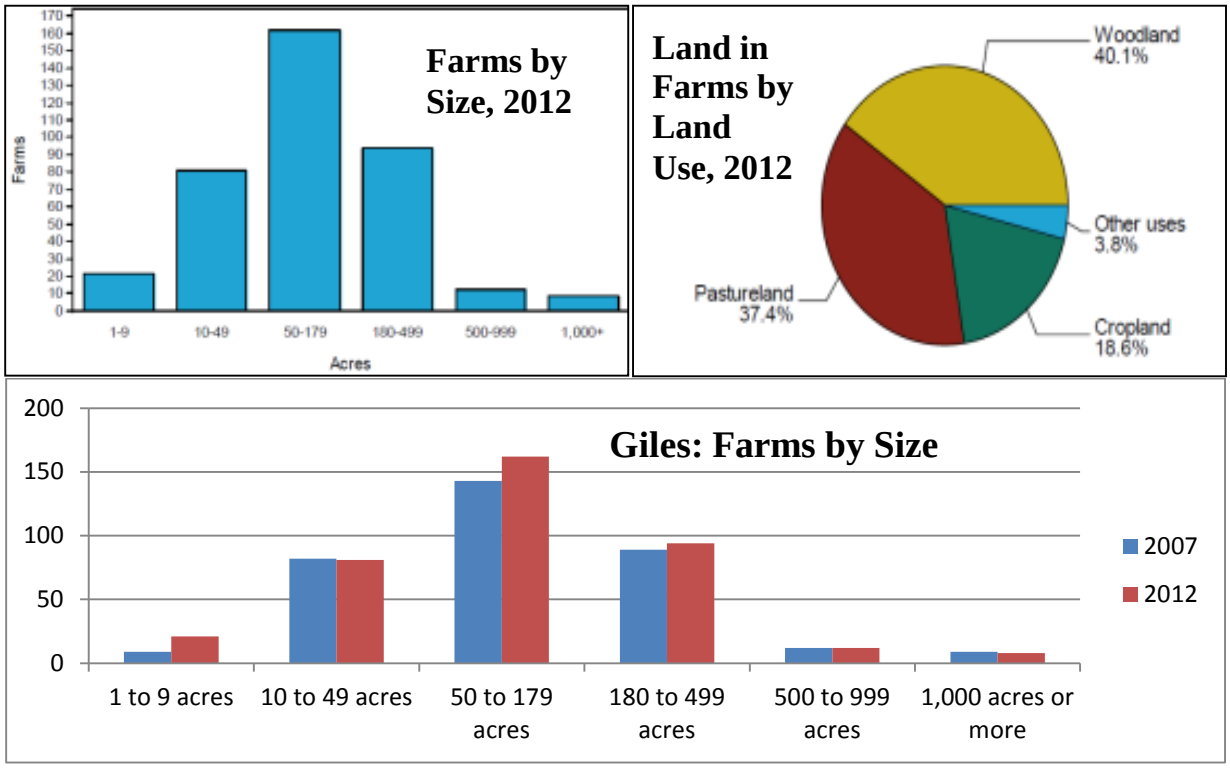

The size of the farms within each county has only slightly changed over the past ten years. Pulaski and Montgomery counties have experienced increase in farm size during recent years. Pulaski has consistently contained the largest farms while Montgomery County's farms have only recently caught up to the size of Giles County farms.

## Giles County

Giles County is located in the southwestern portion of Virginia and shares its northwestern border with West Virginia. It is bordered by four other Virginia counties: Bland, Pulaski, Montgomery, and Craig counties. The county contains a land area of almost 356 square miles. The estimated 2013 population for Giles County is 16,925 people, which is about .2 percent of Virginia's total population. The most recent population estimates do show a decrease from the county's 2010 population of 17,286. This represents a decrease of about two percent in population.[4]

In 2012, Giles County had 7,126 households with a median household income of $44,365. During the time period between 2008 and 2012, the county had a 14 percent poverty level, which is three percent higher than the poverty level for Virginia. Manufacturing was the most employed industry in 2012 for the county.[5]

**Figure 4: Giles County Farm Statistics; 2012 Census of Ag**



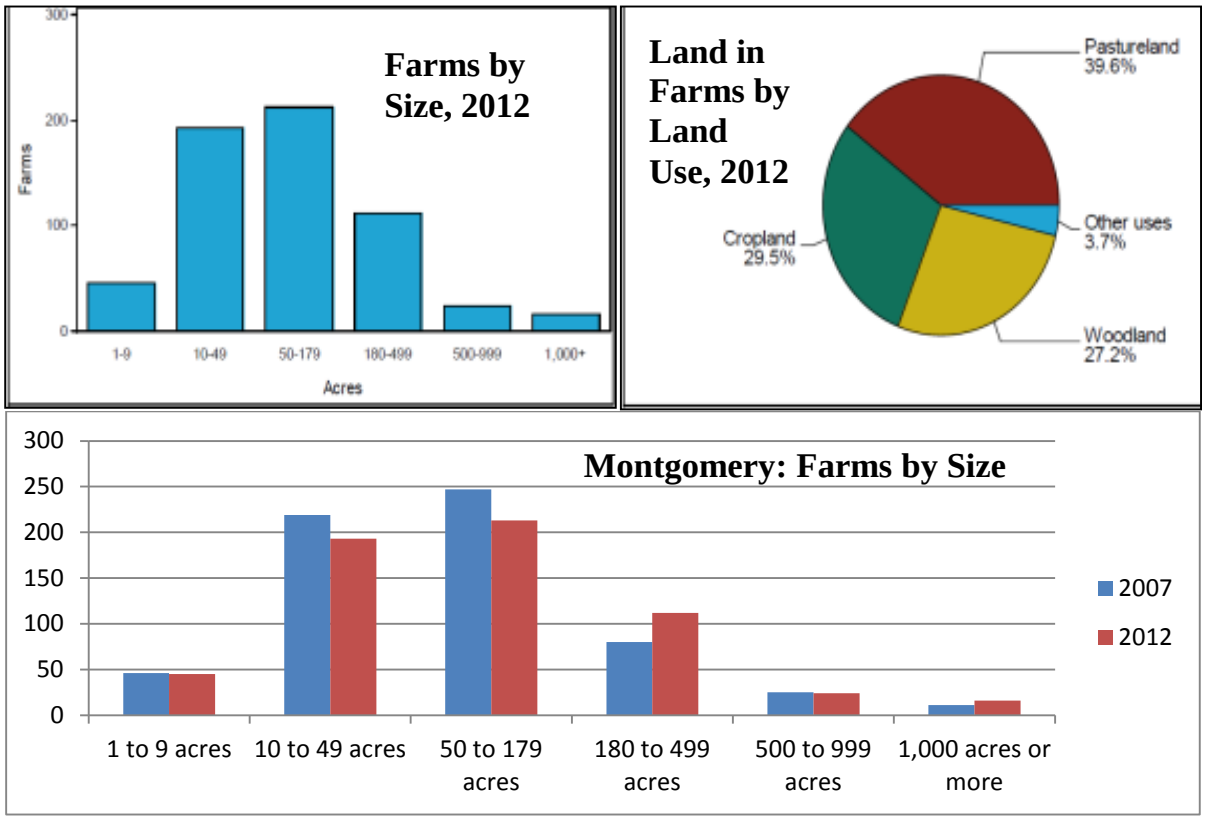

According to the 2012 Census of Agriculture, the county had 378 farms with a total of 65,571 acres of land. The average farm size is 173 acres and about 43 percent of the farms are between 50 and 179 acres. The market value of agricultural products sold from Giles County farms was over $8 million and the average amount sold per farm was over $21,000.[6]

[4] U.S. Census Bureau (2014). "Giles County, Virginia." *State & County QuickFacts.*
[5] STATS Indiana (2014). "Overview of Giles County, VA." *USA Counties IN Profile.*
[6] USDA NASS (2014). "County Summary Highlights: 2012." *2012 Census of Agriculture*

## Montgomery County

Montgomery County is bordered by Pulaski, Roanoke, Craig, Giles, and Floyd counties. The estimated population in 2013 was 96,207 people, which accounted for a little over one percent of Virginia's population. Since 2010, the population has increased by almost two percent. Montgomery has a land area of about 387 square miles with about 244 people per square mile.[7] In 2012, the county had 34,739 households with a median household income of $42,307. Montgomery County contains Blacksburg and Christiansburg, two large population centers in the state located along the interstate 81 corridor. The county is also home to Virginia Tech and the Virginia Tech Corporate Research Center.[8]

**Figure 5: Montgomery County Farm Statistics; 2012 Census of Ag**




The 2012 Census of Agriculture indicates that Montgomery County had 603 farms with a combined 107,260 acres, making this county the largest in terms of farms out of the tri-county area. The average farm size was 178 acres and about 34 percent of the farms in the county were between 50 and 179 acres. For 2012, Montgomery County farms had a total market value of agricultural products sold of $23.7 million and the average value per farm was just over $39,000.[9]

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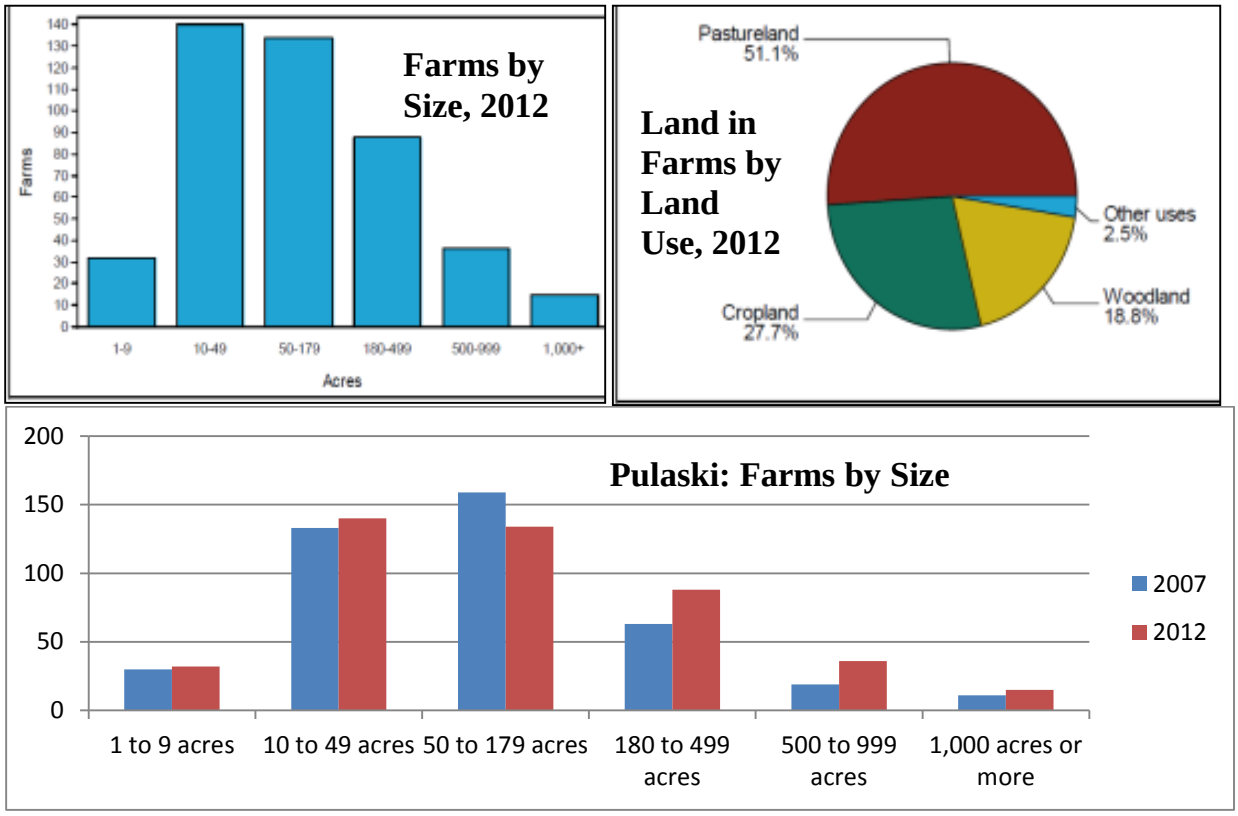
[7] U.S. Census Bureau (2014). "Montgomery County, Virginia." *State & County QuickFacts.*
[8] (2014). "About Montgomery County, VA." *The Official Site of Montgomery County Government.* www.montgomerycountyva.gov/content/1142/96/default.aspx
[9] USDA NASS (2014). "County Summary Highlights: 2012." *2012 Census of Agriculture*

## Pulaski County

Pulaski County is located to the southwest of Montgomery County and south of Giles County. It is also bordered by Bland, Wythe, Carroll, and Floyd counties. The estimated 2013 population for Pulaski County is 34,507, which is about .4 percent of Virginia's population. The county's population did experience a one percent decline since 2010. With a land area of about 320 square miles, Pulaski County has 109 people per square mile. In 2012, there were 14,874 households with a median household income of $42,502. The county's poverty rate was about 16 percent, or five percent above Virginia's poverty rate.

Pulaski County is home of Claytor Lake which is part of New River. It was created from a hydroelectric project by the Appalachian Power Company. Claytor Lake hosts swimming, camping, hiking, and picnicking but it is best known for sport fishing and boating.[10]

**Figure 6: Pulaski County Farm Statistics; 2012 Census of Ag**




In 2012, the county had 445 farms with a combined 96,611 acres of farmland. The average farms size is 217 acres but about 31 percent of Pulaski County farms have between 10 and 49 acres. The total market value of agricultural products sold in 2012 for all farms was over $28 million; the average value per farm was about $63,000.[11]

[10] Virginia Department of Conservation and Recreation (2014). "Claytor State Park." *Virginia.Gov*. www.dcr.virginia.gov/state-parks/claytor-lake.shtml
[11] USDA NASS (2014). "County Summary Highlights: 2012." 2012 Census of Agriculture

# EVALUATION OF CURRENT AGRICULTURE SECTOR

## Virginia Agriculture

Agriculture is Virginia's largest and oldest industry; it has been the backbone of the state economy for almost four centuries. It generates approximately $52 billion annually, provides 311,000 jobs, consists of over 46,000 farms, utilizes about 33 percent of the land in the state, and, when combined with forestry, accounts for about 8.1 percent of the state's GDP. Almost 90 percent of Virginia's farms are family owned and operated, and it is estimated that every job in agriculture and forestry in the state supports 1.6 jobs in Virginia's economy.[12]

## The Land Base

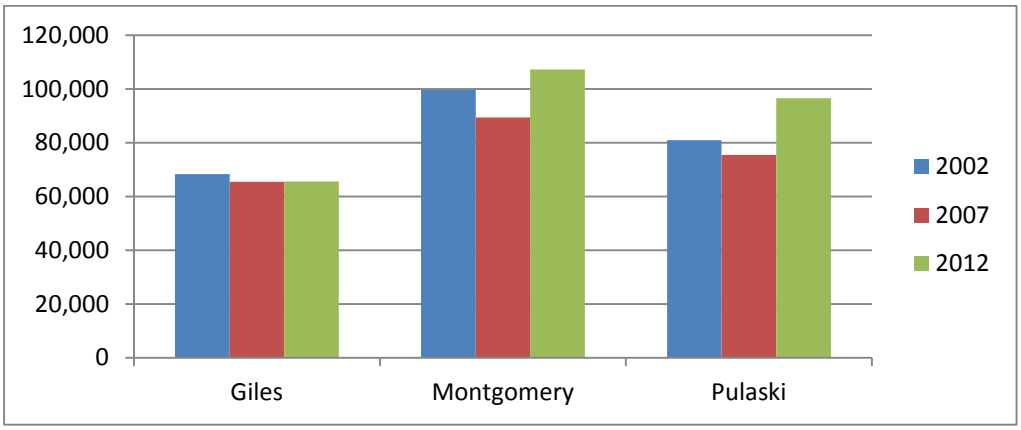
From 1982 to 2007, Virginia saw 462,300 acres of productive farmland converted to developed uses, ranking the state 21st in the country (and 14th in the percentage of agricultural land converted). The conversion of farms to other uses puts pressure on remaining farms and the entire agricultural sector. Often, the highest quality farmlands are the most likely to be lost to development, as the land that grows the best crops also builds the best houses – flat, well-drained, and easily accessible by road. This is particularly alarming in Virginia, which ranked ninth in the country in the percentage of prime agricultural land converted to development most recently (from 2002-2007), when 1.29 percent of the best lands for crops and livestock were lost.

[12] "Virginia Agriculture: Facts and Figures." Virginia Department of Agriculture and Consumer Services. Accessed 7-3-14. www.vdacs.virginia.gov/agfacts/index.shtml.

In turn, farmers are pressured to match yields on less productive and often environmentally fragile lands, and there is increased competition for remaining farmlands, spurring a bidding war for leased lands, as many farmers need to maintain acreage and gross income to generate cash flow to cover debt. As farms sell out and disappear, neighbors may stop reinvesting in their operation and facilities. In turn, service providers suffer because there are fewer farms and acreage, and larger farms may seek volume discounts outside of the county, rather than working with local dealers.

Interestingly, figures from the 2012 Census of Agriculture for Virginia reveal a 2.4 percent increase in the Land in Farms from 2007-2012, ranking 5th of all states in percentage growth.[13] Census figures showed even larger increases in land in farms in the NRV region: 28 percent in Pulaski, 20 percent in Montgomery, and zero percent in Giles. Local farmers were surprised to hear these figures; anecdotally, they have observed good farmland abandoned by aging farmers or being used for housing development. The vast majority of this growth in land in farms was in forage crops: alfalfa, grazing, and pasture. By census classification, Montgomery gained 10,977 acres in these three categories, while Pulaski grew 17,284 acres in this short five year time frame.[14] This stresses how important grazing animals are to the agricultural sector, and several farmers emphasized the fact that **growing forages is what they do best** in the tri-county area.

**Figure 7: Land in Farms: Giles, Pulaski, Montgomery Counties, VA**




Census data is based on self- reports by farm operators. Another possible explanation for these apparent increases in land in farms is that more large forest landowners may be participating in the Census or are considering this land part of their farming operations. This may be driven by more landowners seeking out enrollment in the Property Tax Use Value Assessment program.

**Benefits of Farms**

Agriculture in the New River Valley today provides much more than food to their communities. Well-managed farms bring a range of benefits that all citizens can enjoy at no cost:

[13] "2012 Census of Agriculture." Farmland Information Center. www.farmlandinfo.org.

[14] "Use Value Assessment Estimates and the 2012 Agricultural Census: Jurisdictional changes in Harvested and Composite Farm Acreage from the 2007 and 2012 Census." (June, 2014). Virginia Tech Department of Agricultural and Applied Economics.

- **Economic:** Agriculture contributes to the local economy directly through sales, job creation, support services and businesses, and also by providing entrepreneurial opportunities in secondary markets such as food processing and catering. Farming and forestry are significant economic activities in the New River Valley. Direct cash receipts on farms in the three-county region totaled $60 million in 2007. The forestry sector adds an additional $3.8 million in sales annually. [15]

- **Environmental:** Working farms and forests supply important environmental amenities, protecting wetlands and watersheds, providing food and cover for wildlife, helping to control flooding, and maintaining air quality. The region's farmers manage 270,000 acres of land, about 40 percent of the total land base in the New River Valley. All citizens depend on the owners of farm and forest lands to be responsible stewards of our natural resources.

- **Rural Heritage:** Agriculture is a major part of our cultural heritage, with farm families anchoring rural communities and providing an important piece of the region's unique historical character. Old farmhouses and barns provide a link to the past, many of which are repurposed for continuing farm use in the present. Today, farm families are cornerstones to rural churches, fire departments, schools, and other community institutions.

- **Open Space:** Farms and forests provide wildlife habitat, green space and beautiful views, important for scenic beauty for everyone and attracting new residents, business relocations, and tourist dollars from across the country and world. Privately owned and managed farms are an important and cost-effective element of the County's open space strategy.

- **Tax Savings:** Privately owned working lands provide fiscal benefits, helping keep property taxes low due to their minimal need of public services. **Cost of Community Services (COCS)** studies in six Virginia counties have shown that farm, forest and open lands receive an average of $0.35 in services for every dollar of revenue they provide, while residential land uses require $1.18 in services for each dollar paid in property taxes.[16] Thus, residential properties actually cost counties more in needed services than they provide in revenue, while farm and forestland owners pay more than their fair share of taxes. There is a simple explanation for this surprising result: *cows don't dial 911*. Farms don't require much from their counties, while new housing developments spread out across the countryside require a great deal of public funds for new infrastructure and services.

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[15] Virginia Department of Forestry. "2010 Locality Value and Volume." www.dof.virginia.gov/econ/stats/2010_Value-Volume_County.htm
[16] http://www.farmlandinfo.org/sites/default/files/COCS_08-2010_1.pdf

Findings of COCS studies have important implications for policymakers charting a future course for their communities. They suggest not that communities should pursue a single type of land use for fiscal health, but that they should consider balancing various community goals that include a range of housing and employment options, as well as open space and working lands. With good planning, these goals can be balanced for the benefit of all citizens.

- **Local Food:** The region's farms are increasingly valued as a source of fresh, safe and healthy food. The growth of farmers' markets, community supported agriculture, and direct marketing to restaurants and universities points to strong consumer demand for locally grown fruits, vegetables, wines, meats, and dairy products. With increasingly volatile fuel markets and global instability, New River Valley farms provide important food security to local residents.

## Farmland Preservation

Fortunately, the state of Virginia has a strong program of state support to help counties and landowners. The Office of Farmland Preservation, located within the Virginia Department of Agriculture and Consumer Services,[17] was established in 2001, and uses a 5-pronged approach to stem losses of farmland in the state:

- To work with other governmental and private organizations to help establish local purchase of development rights (PDR) programs by creating model policies and practices, establishing criteria to certify programs as eligible to receive funds from public sources, and determining methods and sources of funding for localities to purchase agricultural conservation easements.
- To create programs to educate the public about the importance of farmland preservation.
- To help farmers with farmland preservation efforts.
- To assist local governments in developing additional farmland preservation policies and programs.
- To administer the Virginia Farm Link program.
- Purchase of Development Rights Programs (PDR's) pay landowners to place permanent restrictions on future development of their farm's land, assuring that this land availability for agriculture. These programs rely on a combination of local, state, and federal government funding and tax advantages, along with private financial and technical support, to compensate landowners for the reduction of equity value of their properties.

### Purchase of Development Rights

PDR programs can help land remain affordable for farming by removing the development value from the cost of purchase. They also allow landowners to recover cash liquidity to help with settling estate planning issues for non-farming heirs, or to invest in new value-added enterprises

[17] "Office of Farmland Preservation (OFP)." www.vdacs.virginia.gov/preservation/index.shtml

or updating aging facilities. Most importantly, these programs create stable parcels of land, which can become the cornerstone of future farming communities.

None of the three counties in the New River Consortium have established a local PDR program, which has been done by 21 counties and one municipality in Virginia as of 2014. Establishing a PDR program, based on the model developed by VDACS, would make a county eligible for state and federal funds for purchasing development rights. The creation of a local program would also establish a clearinghouse for issues related to the loss of farmland, and tie local personnel into the statewide network of PDR program managers. With the influx of outsiders into the New River Valley, loss of productive farmland is becoming an increasingly important issue, and counties will need to work strategically with their farming communities to heighten awareness and seek creative solutions.

**Fauquier County**
**Agricultural Development Board**

Fauquier County has combined the goals of farmland preservation and agricultural economic development under the auspices of their Agricultural Development Board. This board, assisted by three staff members, operates a Purchase of Development Rights program, promotes local products, shares information on grant opportunities and research findings, and provides a range of economic development services to local farmers. The PDR program has protected 9027 acres on 42 farms since 2003, and some of these farms have used the proceeds from the sale of development rights to begin new value-added enterprises on the farm.

For more information, visit
www.fauquiercounty.gov/government/departments/agdev/ and
www.fauquiercounty.gov/documents/departments/agdev/pdf/PDR_progress_report03-13.pdf

**Agricultural & Forestal Districts**

Counties are permitted to adopt districts designed to protect working farm and forest land. "These *Agricultural and Forestal Districts* are voluntary agreements between landowners and the locality, and offer benefits to landowners that agree to keep their land in its current use for a period of 4 to 10 years."[18]

Agricultural and Forestal Districts offer a number of benefits to landowners and counties that can promote and preserve agricultural land uses:

[18] "Agricultural and Forestal Districts." Office of Farmland Preservation (OFP) www.vdacs.virginia.gov/preservation/tools.shtml

1. Belonging to an AFD guarantees you will have land use value taxation, provided you meet the land use eligibility requirements, even if the County rescinds its land use program.
2. The district safeguards the rural character of the community by preserving agricultural and forestal land. It helps to continue rural uses of the land by strengthening the community with common goals and concerns.
3. AFDs offer some protection from eminent domain. Acquisition of land for power lines, roadways, and other infrastructure within a District is subject to a special public review process. Also the expenditure of public funds for non-farm related purposes in an AFD is subject to special review process.
4. Local governments may not enact laws within a district that would unreasonably restrict farm structures, farming or forestry practices unless the restrictions are directly related to health, safety and welfare.[19]

The Valley Conservation Council completed a comprehensive study of Virginia AFDs in 2009.[20] Participating counties reported the greatest benefit of AFDs is their conservation value while the greatest drawback is the lack of incentives for landowners. A follow-up conference held after the study's release generated a list of ideas from participating localities. The key recommendations were to expand the program to add additional incentives for landowners (which would likely require amendments to state legislation) and develop a network amongst the AFD programs across the state to share information. The American Farmland Trust's Farmland Information Center contains a wealth of information about similar Agricultural District programs around the country, which might offer some ideas for expansions of Virginia's program.[21]

According to the latest data from VDACS, Montgomery County has 12 districts totaling 41,087 acres, while Giles and Pulaski Counties do not have Agricultural and Forestal Districts programs.[22] With farmers expressing concerns about the loss of productive lands and the importance of increasing public awareness about the presence of farms, this program could be used more extensively at minimal cost. Mapping could be used to raise public awareness, and Giles and Pulaski should consider establishing local district programs.

**Farm Link**

The Virginia Farm Link program also provides a valuable set of services, which can assist landowners in the transition of their land to the next generation.[23] The program conducts workshops and has compiled a set of educational resources to help landowners understand key issues and options. In conjunction with the Virginia Farm Bureau, the Farm Link program has established a Farm Seeker Certification program centered on a curriculum for farming newcomers to assure that they have adequate on-farm experience and a viable business plan to launch a profitable agricultural enterprise.

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[19] "Loudoun County Agricultural and Forestal District Program FAQ's." (2013). Loudoun County, VA. www.loudoun.gov/DocumentCenter/View/5534

[20](Nov 2009). "Agricultural and Forestal Districts." Conservation Council. http://valleyconservation.org/wp-content/uploads/2013/07/AFD-Rpt-FIN-SH-corr.pdf.

[21] www.farmlandinfo.org/

[22] http://www.vdacs.virginia.gov/preservation/pdf/ag_forestal_summary.pdf

[23] "Virginia Farm Link Program." Office of Farmland Preservation (OFP) www.vdacs.virginia.gov/preservation/program.shtml

These Certified Farm Seekers can then tap into the Virginia Farm Link database to find landowners with either available farms for lease or purchase, or even existing farm operations seeking someone to take over and carry them on. The Office of Farmland Preservation helps connect both sides of this transaction and provides services and professional referrals that can help negotiate this complex landscape. With so many prospective farmers in current times emerging from non-farm backgrounds, these new connections could offer important promise for creating a new generation to tend the land.

**Environment and Conservation**

The farming community is very concerned about increasing environmental regulations related to the Chesapeake Bay Watershed. The State of Virginia has created a strong program to offer farmers alternatives to minimize the impact of these regulations. Currently, the Skyline Soil and Water Conservation District offers 100 percent cost-share for livestock exclusion applications submitted by June 2015. Afterwards, livestock exclusion might become mandatory, with no cost-share available. This is a great opportunity to improve grazing infrastructure on the farm at no cost to the farmer.

Additionally, the state has established a pilot program that allows landowners to develop Resource Management Plans with the assistance of private contractors. Farmers who complete plans which are approved by local technical committees are exempt from any new regulations for the next 9 years. With concerns about increasing pressures on land management practices associated with the Chesapeake Bay rules, the Resource Management Plan is a risk management tool to establish a long-term strategy and avoid the constraints of future regulations.

**Cooperative Extension System**

The USDA Cooperative Extension System is nationwide and includes a state office at a land-grant university and a network of local or regional officers in each U.S. state and territory. The intent of these offices is to provide useful, practical, and research-based information to agricultural producers, small business owners, youth, consumers, and others in rural areas and communities of all sizes.[24]

Virginia Cooperative Extension within the three-county area connects county producers and the community to Virginia Tech and Virginia State Universities "through educational programs based on research and developed with input from local stakeholders." Giles, Montgomery, and Pulaski Counties each house a separate Extension office, with personnel active in programs related to Agriculture and Natural Resources, Family and Consumer Sciences, 4-H Youth Development, and Community Viability and offering both state level program specialist and county level expertise.[25]

[24] National Institute of Food and Agriculture (2013). "Cooperative Extension System Offices." USDA www.csrees.usda.gov/Extension/
[25] Virginia Cooperative Extension Website. www.ext.vt.edu.

## Analysis

The agricultural landscape in the tri-county area is dominated by grass, grazing animals, and steep forests. Acreage in forages and forestry continues to grow. While these traditional land uses continue to dominate total acreage and numbers of farmers, the area is seeing significant growth more value-added enterprises targeting local consumers and visitors: direct market produce, grass-fed meat, wineries, and agritourism.

Actively promoting farming and agriculture in the tri-county area should be a focus of the regions leadership. Farm tours modeled after the Carolina Farm Stewardship Association's annual spring tours[26], maps of local pick-your-own and agritourism operations, and joint promotional efforts with local tourism will all raise public awareness of the diversity of local farms and create new loyal customers. A farm appreciation day featuring such a tour could conclude with a meal and musical event to highlight issues of concern to local farms and raise awareness of the importance of buying local foods.

An oft overlooked area of need is in sourcing quality farm supplies and equipment. Encouraging farmers to seek equipment locally can contribute to the economy within a region, and increasing the communication and flow of needs and information can help suppliers better tailor their inventory to meet local needs. Ideas include the possibility of a buy-local campaign, or presenting figures based on multipliers that show the dollars lost by spending outside the county.

There is significant concern about a shortage of young farmers to keep the industry thriving into the next generation. A farmer recruiting program could focus on attracting experienced farmers to relocate to the county. Activities may include creating a recruiting packet and program for farmers considering relocating to the tri-county area, or creating an agricultural "welcome wagon" packet highlighting the benefits of agriculture in the area. These activities could be coordinated through traditional economic development agencies that already work to attract other types of businesses to the area.

There is an influx of new landowners who are looking more for a bucolic place to retire than intensive residential development. These new landowners need assistance with forest management and conservation planning. Much of this land remains leased to long-time cattle farmers; however, these newcomers need to understand the importance of long-term leases and infrastructure investment to the stability of local farming enterprises. Without an assurance that they will be able to farm the land in five or ten years, the leasing farmer will not be able to justify improvements in fencing, fertility, or facilities. These new landowners are an important part of the puzzle; counties must continue to find creative ways to educate them on the realities of land ownership and the farm economy.

Ensuring that professionals have proper knowledge of agricultural issues, particularly the needs and opportunities associated with the ownership of rural land, offers the best hope that families utilize all available incentives to keep their land in farm use and can help provide important guidance to families making difficult long-term decisions. The Virginia Farm Bureau is another organization that may help with continuing education courses, and the VA Department of Forestry provides a good example by providing realtor education short courses.

[26] Carolina Farm Stewardship Association. "Farm Tours." www.carolinafarmstewards.org/farmtours/

Cooperative Extension currently serves as a source of production and best practice information for the region's producers; however, budget constraints and changes in the structure of extension has led to offices functioning with smaller staffing levels. Extension personnel are stretched thin with basic programming and networking with the public, producers, and university personnel.

In general, the region was praised for having an agriculture friendly regulatory framework. Agriculture is exempted from most restrictions. Montgomery County has a particularly strong Land Use Plan for preserving agricultural uses, limiting up zoning in rural areas.

The changing landscape of agriculture requires a similar institution to provide economic development support and services. A number of Virginia counties have established Agriculture Development Boards (ADB) to focus specifically on economic development related to the agriculture industries present in their respective counties. These ADBs have traditionally worked on preserving farmland, addressing agriculture related regulatory issues, and working with existing economic development agencies to promote economic growth related to agricultural development. The ADB in Bedford County, VA determined that while other agencies can certainly continue to play their role, these efforts often need to be consolidated and led by a single entity[27]. ADBs can play a unique role while coordinating with and enhancing existing resources such as Farm Bureau and Extension services.

Furthermore, the three-county regions goal of regional development means there is a need for ensuring that information which may be provided at the individual county level is also available amongst the other counties in the group. While ADBs in Virginia have traditionally been single county bodies, a multi-county or regional ADB could help Extension address entrepreneurial and economic development issues in the NRV region.

**Franklin County**
**Agricultural Development Board**

In Franklin County, VA, the ADB works on all aspects of improving agriculture, including advising local government on policies and regulatory issues, presenting an agriculture viewpoint on policy concerns, seeking to promote the long-term sustainability of agriculture enterprise, and strengthening the industry through coordination and promoting diversification. They used their recently completed Agricultural Strategic Plan to develop a work plan for the ADB with specific deliverable projects targeted at increasing income and adding value to the farm sector, such as taking a community cannery to commercial standards.

For more information, visit www.franklincountyva.gov/development-board

[27] Bedford County, VA. Office of Economic Development History. www.bedfordeconomicdevelopment.com/agriculture-in-bedford-county-virginia/ag-board/history/

# BEEF CATTLE

**Virginia Livestock**

The livestock industry in the Commonwealth of Virginia has a long tradition and is an important source of revenue for producers. The following Virginia market information was taken in large part from reports on the USDA's National Agricultural Statistical Service (NASS) website. The USDA publishes only one census of agriculture every five years; however, they also have yearly estimates. The most recent census available is from 2012. The most recent estimates at the state level are from January 1, 2014. These are given after the census numbers for comparison.

The 2012 USDA census reports 1,631,882 cattle and calves in Virginia; with 657,320 of these being beef cattle. This represents an increase over 4 percent from 2007 reported inventory figures for the Commonwealth. The 84,983 sheep and lambs in 2012, was an even larger 9.5 percent increase from those in Virginia in 2007. On the other hand were 50,831 goats in Virginia, a significant 19 percent decrease from 2007.

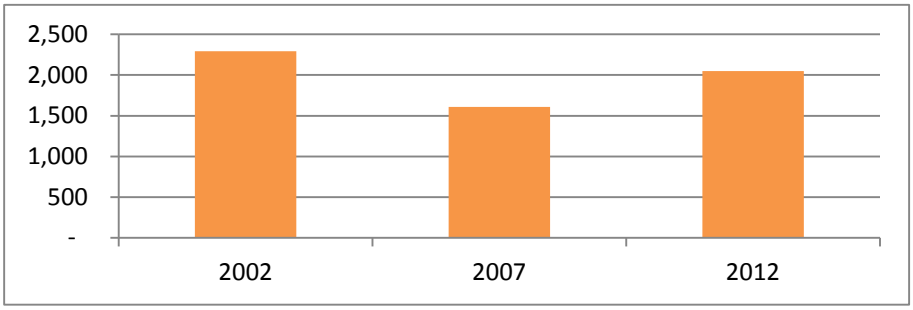
The following table shows Virginia's red meat production from 2008 to 2012 in millions of pounds. Despite a sharp decline from 2008 to 2009, meat production in Virginia overall is trending upward. There seems to be a positive outlook for the industry in the next few years if this trend continues, though decreases are possible.

**Table 1: 2008-2012 Virginia Commercial Red Meat Production**

**Giles County** Over the period of the three most recent Censuses of Agriculture (2002, 2007, 2012) Giles County has maintained a fairly steady ratio of beef cattle and milk cows to total cattle and calves in the county, with beef cattle ranging from 42 percent to 56 percent, and milk cows holding steady at just over 1 percent. The total number of cattle and calves in the county has varied from census to census, but remained fairly steady within the range of 10-13,000 head mark. The Census of Agriculture for 2012 reports 13,632 total cattle and calves, an increase of 36 percent from the 2007 Census figures.

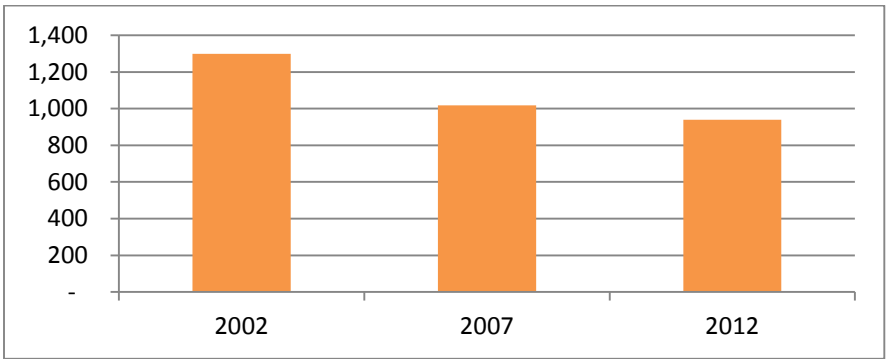
**Montgomery County** Over the three Census periods Montgomery County exhibited an overall increase in the number of total cattle and calves in the county, with the 2012 Census reporting 26,270 total cattle and calves. The number of beef cattle has ranged from 41 percent to 43 percent of total cattle and calves in the county, while milk cows have represented a greater portion of the total cattle inventory than Giles, ranging from eight percent ten percent, and represent the largest number of milk cows of the three counties compared.

**Figure 8: Montgomery County Milk Cow Statistics**



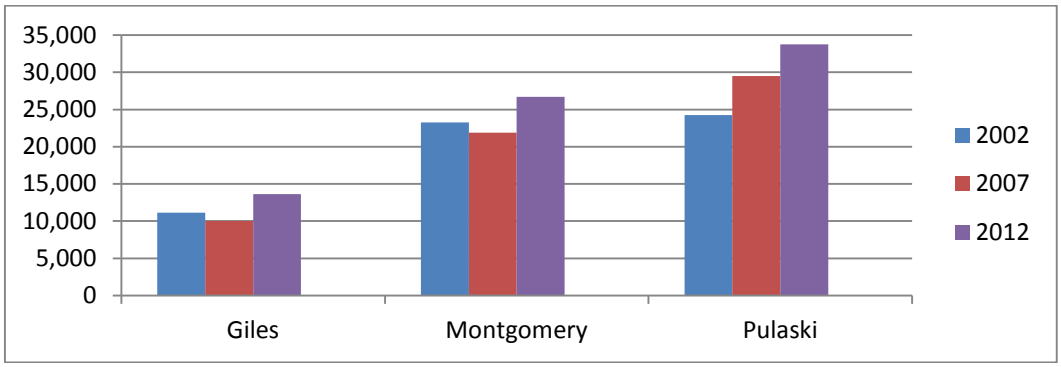

**Pulaski County** Of the three counties, Pulaski has maintained the greatest total number of cattle and calves, with 2012 Census of Agriculture inventory figure reporting 33,759 total head. The number of beef cattle for the county is 44 percent of the total inventory on average, and has consistently increased over the three census periods. The number of milk cows in the county has ranged from three to five percent of the total inventory, but have shown declines over the same time period.

**Figure 9: Pulaski County Milk Cow Inventory**




Continued growth in the number of cattle reflects strong price appreciation through the past decade. Estimated decreases within the past year may be an indication of increased sales for profit-taking, as both beef and milk are seeing record high prices in 2014.

**Figure 10: Total Cattle for Giles, Montgomery, and Pulaski County VA**




A main driver of agriculture in the tri-county area is beef and cattle production. Beef and beef cattle sales comprise 56 percent of the total market value of $59.9 million of agricultural sales in the region in 2012,[28] and also make up the predominance of farmers and agricultural land use in the area, between grazing and hay production. Because of the size of this sector, a sustainable plan for the promotion and long-term health of agriculture in the tri-county area must include ways to address the success of these types of operations.

Cattlemen are the most plentiful producers in the region, and forage production uses the most agricultural land. It is the region's comparative advantage. Education efforts should challenge farmers to learn and implement improvements that can make their operations more profitable and efficient: soils, feed production, grazing practices, facilities, health care, and marketing.

Because of the significance of this component of the area's agriculture industry, a deeper analysis has been conducted to further explore opportunities that may address the concerns of traditional beef producers as well as highlight the possibility of accessing new markets in the future through direct marketing activities.

[28] United States Department of Agriculture, 2012 Census of Agriculture.

## Beef Production Overview

The beef production process begins with selection for breeding. Selection is typically made based on the environment in which the cattle are intended to be raised and the type of end product that is desired, with certain breed characteristics desirable based on these factors.

In general, beef grown for slaughter and consumption utilize three distinct farming operations: cow-calf farms, backgrounding farms, and feedlots. Cow-calf farms oversee the breeding and birth of calves, backgrounding farms handle cattle after weaning, and feedlots oversee the cattle's final growth until slaughter.

**Figure 11: Beef Life Cycle**

Source: www.explorebeef.org

**BEEF LIFECYCLE**

1. Cow-calf farms and ranches breed and produce calves.
2. Calves drink their mother's milk and graze while growing.
3. At approximately 8 months old and 500 pounds, calves are weaned.
4. Calves are sold at auction markets to stockers and backgrounders.
5. Stockers and backgrounders graze cattle on pastures across the United States.
6. The cattle are then sold or moved to feed yards.
7. Beef cattle are harvested in modern processing facilities.
8. Beef from the packing plant is sold in supermarkets and restaurants worldwide.
9. Approximately 90 percent of the beef raised in the United States (by weight) is consumed in the United States. The remaining 10 percent of beef is exported.

***Cow-Calf Farms***
Cow-Calf Farms and ranches breed cows to produce beef calves. The process is generally mediated through the use of artificial insemination, both to ensure good stock by selecting the sire, as well as to control the birth cycle.

After calving, the cows are allowed to remain on the farm with their mothers until they are ready for weaning and the next stage of beef production. Calves are typically kept with their mothers until the age of approximately 6-8 months and about 450 pounds. The next stage is for the calf to be weaned, and then proceed to a backgrounding farm.

***Backgrounding***
Typically after weaning, ownership is transferred when the animal is brought to a livestock auction. Backgrounding and stockers purchase the immature cattle after weaning, but before they have achieved sufficient weight and age to be sent to feedlots for finishing. The primary goal of backgrounding is to add weight.

The backgrounding process also readies the cattle for the feedlot by conditioning them to be enclosed and take feed and water from a trough or other collective feeding apparatus, as well as allowing them to grow accustomed to the types of feed they will begin consuming after arriving at the feedlot. Cattle are raised in the backgrounding environment until reaching a weight of around 600 to 700 pounds.

***Feedlots***
Anywhere from the age of 8 to 14 months, depending on the speed of their growth, the animals are placed in feedlots to finish their growth to market weight. The primary purpose then is the efficient fattening of the animal in order to maximize yield at slaughter. Market weight can range from 900 to 1,400 pounds at anywhere from 12 to 22 months of age. In general, the diet for the animals has a great influence on the time it takes to reach market weight; animals that are grass fed rather than raised on a commercial diet mix will take longer to reach slaughter weight.

***Slaughter***
Once ready for further processing, the animals are slaughtered at a plant and then packaged for sale and consumption. Packaging and further processing typically occur within the slaughter facility, as well as at butcher shops and other points of sale that possess the proper facilities and personnel. Meat processing, commonly referred to as fabrication, is the stage where the meat is packaged into individual cuts such as ground beef production, sausages, and other products.

***Beyond Production***
Moving beyond the components of production, there are additional market possibilities that provide opportunities for increasing profits to producers through direct marketing. Several beef value chain possibilities have been provided as examples to show the types of approaches that can be taken.

**Figure 12: Examples of Beef Value Chains[29]**

**1. Farmer/Rancher → whole beef → "Market"**
"Market" is any entity that can buy live animals off the farm/ranch.

**2. Farmer/Rancher → whole beef → consumer**
Farmer/Rancher direct sells whole animal to consumer.

**3. Farmer/Rancher → "retail cuts"→ consumer**
Farmer/Rancher direct sells retail cuts to consumers and receives gross income from sales.

**4. Farmer/Rancher→ Processor/Distributor/Wholesaler → retail store→ consumer**

The majority of area producers operate cow-calf ventures and sell feeder calves at weaning, a practice that does not maximize the value of sales. In this scenario, local farmers are price-takers, with no control over their market and no options to keep cattle longer during times of low prices.

As most local calves are sold immediately at auction after weaning, producers receive the lowest price possible. Farmers expressed concern that they are at the mercy of buyers at local feeder sales, and they need a *fair market.* Buyers prefer calves sold at least 45 days after weaning, when they are feed and water trough trained, vaccinated, and have regained weight lost at weaning.

This process is also called Preconditioning calves for stocker and finishing operations.

This process has received considerable attention in recent years with interest in value-added programs for cow-calf producers, beef quality assurance programs and strategic alliances in the beef industry. Preconditioning programs involve a series of management practices on the farm to

[29] Schahczenski, Jeff (2008). "Building a Montana Organic Livestock Industry." Montana Organic Producer's Cooperative. https://attra.ncat.org/attra-pub/download.php?id=203

improve the health and nutrition of calves. There are various preconditioning programs with different names and management requirements, but most programs require a 45-day post-weaning phase with a sound nutritional program, specified animal health procedures, dehorning, castration of bull calves and bunk feeding.

Preconditioning programs reduce stress from shipping calves at weaning, improve the immune system, and boost performance in post-weaning production phases (i.e., stocker production and cattle feeding) and in carcass performance (i.e., higher grading carcasses with fewer defects).[30] Preconditioning adds value to calves for buyer, and when marketed in a system that recognizes the value that has been added, cow-calf producers benefit from the higher prices.

### A New Slaughterhouse?

In areas where beef production is prevalent, producers often discuss the possibility of establishing local slaughter facilities as a means of beginning to capture more value from slaughter-ready stock. Interviews with producers and extension agents frequently revealed interest in a new local facility.

Detailed analysis of the possibility of establishing a slaughter facility has been included in the Appendices to provide a benchmark of supply that would be needed to support such a facility in the future. From this information, the amount of animals required to cover basic costs was determined, and can be compared to the existing supply of inputs from the three-county region.

To create a preliminary break even model that shows the number of inputs required to keep a small-scale facility in operation, information was gathered from other beef and multi-species processing plants studies. This data was used as a basis for establishing an average amount of revenue earned per animal; reasonable estimates of business expenses were also calculated.

The New River Valley would need to slaughter a minimum consistent weekly supply of 41 cattle per week. With so little finishing of cattle occurring locally, the region would be hard-pressed to reach this number. Local farmers looking to direct market their beef would be better served to work with existing area slaughterhouses on modernization and specification of new services.

### Analysis

*There is noted resistance to change amongst traditional beef producers. Education or outreach is needed to persuade producers that there are ways to participate in programs that can have a positive impact for the added risk or cost.* To expand their options, beef producers have two possible strategies to receive a higher price: (1) develop the infrastructure to keep their calves longer and (2) work together to form trailer-load quantities of similar animals to create some marketing leverage. They have an additional option to improve production efficiencies through technical assistance and whole farm planning.

[30] "Profitable Cattle Marketing for the Cow-Calf Producer" (July 2012). University of Georgia Cooperative Extension. http://extension.uga.edu/publications/detail.cfm?number=B1078

***Strategy 1: Keeping calves longer.*** As outlined in the Beef Life Cycle explanation in this section, New River Valley farmers are at Level 1, Cow-Calf Farms. To gain more of the value of the final product, producers should attempt to become Backgrounders (Level 2), as well. Backgrounding involves regaining weight and body conditioning after weaning (Preconditioning) and then putting another 200-400 lbs on the calves before sending them to a feedlot for finishing (Stocking).

| **Southwest Virginia Beef Builder Initiative** | **Kentucky Beef Network** |
|---|---|
| In Virginia, 12 counties have created the Southwest Virginia Beef Builder Initiative. Funded by the Virginia Tobacco Indemnification and Revitalization Commission and the Abingdon Feeder Cattle Association, Southwest VA Beef Producers can apply for a grant program offering a 50% cost share on purchases up to $6,000 on certain pieces of equipment, weaning pens, structures, and improved herd bulls. All applicants must meet program guidelines of the grant including holding a current Beef Quality Assurance (BQA) certificate, being a resident or property owner in the participating county, possessing a minimum of 25 breeding age females or 25 stocker calves, having a vaccination and weaning program and defined calving season, and marketing at least 20% of the calf crop through a value-added program such as state graded sales or VQA sales. | The Kentucky Beef Network enhances producer profitability by helping producers improve animal health, genetics, forages, and marketing, and utilizes partnerships between KY Cattlemans' Association and Kentucky Cooperative Extension. The program includes a full range of services, such as conferences, access to field personnel, certifications on beef quality and cattle handling, value-added marketing programs (based on certifying cattle as pre-conditioned and weaned for 45 days), carcass ultrasound, grazing schools, a newsletter, Young Leadership Program, Professional and Master Cattleman Certification, and Master Marketer Program. |
| Program Guidelines: http://offices.ext.vt.edu/dickenson/WhatsNew/program-guidelines.pdf | More information can be found at www.kycattle.org |

***Strategy 2: Group Marketing.*** The second phase needed to retain more value for local beef cattle is to work together in marketing. As primarily small producers, New River Valley beef farmers need to collaborate on breeds, timing, quality standards, grading and sales to allow grouping for

tele-auctions and truckload sales. This can bring both additional leverage for buyers and a higher price with efficiencies and quality assurance for buyers.

Local extension agents have expressed a willingness to coordinate the grouping and grading of calves from multiple farms. They report the returns from group sales and tele-auctions to be as high as they have ever seen, but this requires farmers to be willing to work together cooperatively.

**Shenandoah Valley Beef Co-operative**

The farmers of the Shenandoah Valley Beef Co-operative, Inc. are a diverse group of farmers dedicated to a common goal: growing beef cattle in an economically and environmentally responsible way. SVBC is located in the Shenandoah Valley of Virginia and consists of families that have been farming since the Revolutionary War as well beginning farmers. All of these small, family-owned farms "offer healthy and delicious meat that is raised with care," and sell their beef wholesale through restaurants and retailers. The SVBC preserves the Shenandoah Valley's natural beauty through farming and prevents farmland from being lost through development.

More information at *www.shenandoahvalleybeefcoop.com.*

**Grayson Natural Farms**

Grayson Natural Farms is a company formed by several independent farmers that focus on raising all-natural, grass-fed beef in and around Grayson County, VA. Through their collective marketing, they have been able to access small local customers as well as larger restaurants and institutions, and their products are available for purchase on their website.

More information can be found at *www.graysonnatural.com.*

***Strategy 3: Maximizing existing resources and farm planning teams.*** The cheapest feed available is from one's own pastures, so NRV beef farmers should consider investing time and money in pasture improvements. This would include more soil testing and fertility management, introduction of additional pasture forage species, including the use of summer annuals such as sorghum-sudan and improved crabgrass varieties, and intensively managed rotational grazing using polywire and frequent moves of cattle to fresh ground to allow adequate time for plant re-growth and ensuring that animals are consuming plants at their most nutritious phase of growth.

One successful strategy for other regions is the creation of local technical advisory teams. These teams include individuals with expertise in agronomy, forages, business planning, economics and

marketing, conservation, and other disciplines. They make periodic visits to individual farms to provide analysis and suggestions for improvements, or to help address specific issues.

Small-scale slaughter facilities operating on a year round basis often find it difficult to source a steady supply of inputs. Frequently, producers raising beef and other animals for slaughter purposes are subject to seasonality based on the animal's lifecycle as well as marketing factors. Larger plants are usually able to offset this issue by maintaining a large enough customer base to provide a steady flow of processing work.

| **Pennsylvania Center for Dairy Excellence** | **Dairy Profitability and Enhancement Teams** |
|---|---|
| One good example of the technical advisor group approach is the Pennsylvania Center for Dairy Excellence, which has established grants to fund the formation of Dairy Profit Teams. These teams conduct quarterly meetings of business planning, dairy science, and agronomic experts with individual farms to assess operations and provide recommendations. | Another example of a similar program is Minnesota's Dairy Profitability and Enhancement Teams. These teams consist of farm business management instructors, dairy extension specialists, and dairy industry partners who seek to provide information about technologies, sustainable agriculture methods, and help enhance the long-term sustainability of dairy farms. |
| For more information, visit http://centerfordairyexcellence.org/dairy-profit-team/ | For more information, visit www.mda.state.mn.us/grants/grants/diagnostics.aspx |

***It is vital to the long-term viability of a slaughter and processing plant that it be able to source a consistent supply of animal inputs to maintain operations on a year round basis.*** This can be difficult, especially given the small-scale nature of many regional facilities and the seasonality associated with cattle production and meat slaughter and processing. Producers who intend to use the facility will have to demonstrate their ability to deliver animals according to consistent production and delivery protocols before a slaughter facility can be seriously considered.

# TRADITIONAL AG: FORESTRY & TIMBER

The Virginia forestry industry has experienced a decline over the past few years. The amount of timber product output from roundwood[31] in the state of Virginia declined by 13 percent between 2007 and 2009. This decrease brought the total amount of production for 2009 to 402.5 million cubic feet. The most produced products for 2009 were saw logs and pulpwood, which had a combined output of 333.1 million cubic feet, or 83 percent of the state's total roundwood production. The state exported 86.6 million cubic feet of roundwood to other states and only imported 82.1 million cubic feet.[32]

The tri-county area contains mostly Appalachian hardwoods, including oak, hickory, poplar, birch, and basswood. There are concerns regarding invasive species, such as gypsy moth, emerald ash borer, and plants such as alanthus and bittersweet.

While the tri-county area seems to have adequate resources for logging, and enough sawmills and markets to serve moderate harvest and sale needs, forestry personnel see room for improvement in the management of individual timber stands.

[31] Roundwood is defined as, "Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer uses."
[32] Cooper, J.; Johnson, T.; & Becker, C. (2011). "Virginia's Timber Industry-An Assessment of Timber Product Output and Use, 2009." USDA Forest Service Southern Research Station.

Few landowners have a long-term forest management plan, resulting in the growth of less desirable species and harvests that do not maximize the value of the forest. High-grading (the selective harvest of high-value trees only) is a practice that results in the overall degradation of timber land value over time, as less desirable species left behind will predominate.

Landowners should be encouraged to make use of the Department of Forestry's forest management plan services, which offer this type of expertise for modest fees. These plans are entirely voluntary, serving an advisory role to give the landowner a full range of options. Completing a forest management plan serves the purpose of educating landowners and strategically utilizing their resource to continue to provide for the future value of the land. Owners can also hire private forest consultants to complete these plans as well.

Educational outreach should seek to identify and target forest landowners without a plan to explain the value of carrying out long-term management and carefully timed harvests. Halifax County has been noted as a model in their forestry outreach programs for landowners. This is an area where regional collaboration can be an efficient way to deliver services. The Virginia Department of Forestry is expanding their efforts to reach these new landowners, such as the "Managing Your Land" workshop held June 23, 2014 in Christiansburg.[33]

One option to encourage landowners to take advantage of these services is to require a forest management plan in order to maintain eligibility for forestry land use taxation. For this reduced property tax rate, Virginia state law requires forest landowners either to sign a commitment to keep land in forest or have a management plan in place. Montgomery County currently requires an active forest management plan to receive land use taxation, but Giles and Pulaski do not. This requirement would be a win-win for the county and landowners in maximizing the financial, environmental, and scenic benefits of productive forest land. This requirement would be particularly timely with the large amount of land expected to change hands in the next twenty years, providing an added incentive for heirs and absentee owners to plan for the long-term productivity of their land.

Another method of improvement addresses the logger side of the industry. Virginia Tech offers a "SHARP Logger" Program (Sustainable Harvesting and Resource Professional), with the goal of ensuring that sustainable forestry principles are followed on the majority of timber harvest sites in Virginia[34]. The program consists of 18 hours of instruction and field training, with a continuing education requirement to maintain certification. Curriculum includes logging safety, sustainable forestry practices, and harvest planning best management practices training and instruction.

Other notable programs include woodland botanicals research projects ongoing at Virginia Tech, as well as equipment cost-share programs focused on tree planting and timber improvement.

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[33] "Managing Your Land." Workshop Announcement. http://forestupdate.frec.vt.edu/landownerprograms/events/2014andersonlomeeting.pdf

[34] The Department of Forest Resources and Environmental Conservation. "SHARP Logger Program." Virginia Tech. http://sharplogger.vt.edu/

There is also room for improvement in the coordination of harvesting within a region. Working to coordinate the harvesting of multiple small plots within a region can help loggers or harvesters allocate their resources more efficiently.

Education is needed, particularly in regards to the practice of grazing cattle in the woods, which can result in compaction, erosion, and other issues. Coordinating education with the Virginia Tech Agroforestry research projects may also benefit landowners. To support the long-term stability of forestry in the region, counties should consider the adoption of local ordinances reinforcing the state law allowing regular forest management practices.

**Bio-Fuels**

The forest resources within the tri-county area facilitate a wood-based bio-fuel industry. Lumber processing facilities in Radford (Turman Lumber) and Covington (Mead Westvaco) offer opportunities for bio-fuel production, with Turman offering the ability to produce wood pellets and hardwood mulch products. Other opportunities include the possibility of a local biomass facility, which would provide a processing outlet for lower quality wood during the winter.

Within the state, Mead, Hurt, and Altavista also offer market outlets for wood chips, bark, and small diameter trees. New technology for specialized uses is also emerging, for example, the Swedwood facility in Danville is laminating a compressed sawdust product for IKEA furniture.

According to a bulletin[35] published by the University of Tennessee Extension, there are numerous forms and possibilities for the production of woody bio-fuels. The Virginia Department of Forestry outlines numerous benefits for both individuals and businesses from the expansion of the biomass fuel industry:

- Provides new markets for waste wood, manufacturing residues, and materials from forest management activities.
- Provides new markets for agricultural wastes and potential for developing energy crops.
- Reduces material going to landfills, being dumped or open burned, such as woody debris and other wood waste.
- Reduces site preparation costs for artificial regeneration.
- Reduces pollution compared to using fossil fuels.
- Provides additional jobs and revenues to local economies, especially in rural areas.
- Reduces dependency on foreign fuel sources.
- Energy deregulation can provide opportunities for “green energy providers.”
- Increased demand for “green energy.”
- Federal programs provide technical and financial support to expand renewable energy.
- New technologies provide biomass power plants available for individual operations to supply the energy needs of entire cities.
- Increased interest in better utilization of natural resources.[36]

[35] (2007). “SP702-A Woody Biofuels: Past, Present and Future.” The University of Tennessee Agricultural Extension Service.
[36] Virginia Department of Forestry, “Bioenergy and Biofuel Resources.” Accessed 10-1-13. www.dof.virginia.gov/energy/bioenergy.htm

**Ferrum College**

One regional example of the bio-fuels industry and its effects can be seen in the recent completion of a green energy project on the campus of Ferrum College, located in Ferrum, VA. Ferrum College began operating two biomass boilers in the spring of 2013 that use waste products from the regional timber industry to supply the majority of the campus' energy needs.

For more information, visit http://www.ferrum.edu/

## Analysis

Forestry is a key element of the agricultural landscape in the New River Valley. Although not an enormous annual income generator, woodlands are a big part of land use on farms, ranging from 19 percent in Pulaski to 27 percent in Montgomery to 40 percent in Giles County. Well-managed woodlands can also provide significant environmental benefits, such as water quality protection, wildlife habitat, and tourist draws in aesthetics, open space, and recreation opportunities.

Forest management involves thinking long-term, with management decisions oriented towards improving timber stands that will be available for harvest (and thus significant realization of income possibilities) only once a generation. Landowners (and those who advise them) should understand the long-term implications of proper forest stewardship decisions. Loggers are also important partners in helping landowners maximize the value of their timber resources.

The Virginia Department of Forestry offers a terrific slate of services to forest landowners. Individual forest management plans are amongst the most cost effective tools available, and an updated version should be fundamental to every owner of woodlands. Counties can use a combination of carrots and sticks to encourage their completion. With so many new and absentee owners of forestlands, it is essential to use all channels to reach out and encourage the use of available resources to maximize the value of these long-term assets. Full use of state and federal cost-share programs for tree planting and timber stand improvement are the best means to assure ongoing funding of these important management tools.

The tri-county area should also utilize the research capabilities at Virginia Tech to explore new opportunities in agroforestry, woodland botanicals, and biofuels, as new technologies present alternative options for the production of food and energy.

# VALUE-ADDED AGRICULTURE

## Value Added[37]

Adding value to agricultural products can take place in many ways, such as "cleaning and cooling, packaging, processing, distributing, cooking, combining, churning, culturing, grinding, hulling, extracting, drying, smoking, handcrafting, spinning, weaving, labeling, or packaging… information, education, entertainment, image, and other intangible attributes."

In addition, it should be noted that there is a difference between "capturing" value and "creating" value. As outlined in the ATTRA document "Adding Value to Farm Products: An Overview" *capturing value* is largely tied to processing or marketing and the creation of commercially available products, while *creating value* is more closely linked to creating products or services different than the mainstream products currently available. Examples include organic certification or identity preservation.

[37] ATTRA "Adding Value to Farm Products: An Overview" 2006

One example of a value-added entity is a local cannery. Canneries often help local farmers add value to their fruits and vegetables that typically have short shelf lives. Most community canneries were started during World War II and have since strived to stay active entities within the farming community. Canneries help rural farmers ensure the quality of their food, while also helping to lower food costs. According to the Virginia Tech College of Agriculture and Life Sciences, Virginia contains 12 canneries, scattered across the state. Only two of these canneries are inspected and approved by the Virginia Department of Agriculture as open for production of commercial re-sale items.

As an example, the Montgomery County Community Cannery provided equipment and helpers to assist local residents in canning their own foods. While the Montgomery County Cannery was available for public use, it was only open to individuals canning for home use or for non-profit entities to use in fundraising activities, and did not possess commercial kitchen certifications; producers utilizing their services are not able to conduct retail sales with the resulting products.

**Piedmont Food and Agricultural Processing Facility**

The Piedmont Food and Agricultural Processing Facility was established in 2011 as a Non-Profit 501(c)(3) through a partnership between four counties in North Carolina with a goal to improve the local agricultural economy by helping farmers and other food entrepreneurs to start and grow agricultural products. The primary method of achieving this is by providing low cost access to a regulatory compliant food production facility. The current facility includes multiple fully-equipped kitchens, coolers, a freezer, storage areas, a dock, and office space. The Facility also offers a range of services such as advanced kitchen training, general consultation and training, and product development services. The center began with funding from numerous state and federal grants.

For more information, visit http://pfap.virb.com/

## Direct Marketing

The most common method for farmers and producers to capture additional value from their production is through direct marketing. Direct to consumer marketing of products has emerged as a way for producers to capitalize on the increased interest in local foods found across the United States. Farm stands, CSAs, U-Picks, Farmers Markets, Roadside Stands, Food Hubs, have all emerged as viable methods of selling directly to the consumer[38].

These direct to consumer sales, often referred to under the umbrella of “local foods,” have an impact on the greater food economy in a region as well. A brief 2012 report[39] compiled by the

[38] “Local Foods and the Value of Direct Marketing in Virginia.” (January 2013). Virginia Foundation for Agriculture, Innovation and Rural sustainability.
[39] “Wisconsin Local Foods Economic Impacts (Direct Sales 2012)”. Wisconsin Department of Agricultural and Applied Economics; University of Wisconsin Cooperative Extension.

University of Wisconsin Department of Agricultural and Applied Economics and UW Cooperative Extension reports that for every dollar of new direct food sales for human consumption the total increase in food industry sales will be $1.62.

There are numerous examples of direct marketing channels offering local foods throughout the three-county area. Several promotional materials for the region provide listings of farms, farmers' markets, farm stands, u-picks, markets, and other entities where local food can be purchased.[40, 41]

The interest in locally sourced and finished foods has resulted in a new class of consumer in the U.S.: the "locavore." Small-scale producers have been able to access this new consumer class through direct marketing channels such as farmers' markets, farm stands, and on farm markets; however, mid-scale farmers have had a difficult time accessing these opportunities. A mid-scale farmer's relative size and crop specialization prevents them from moving significant enough volumes through direct marketing channels to support their size of operations, and yet their lack of commodity scale infrastructure and the corresponding economies of scale have resulted in relatively high costs of production compared to commodity producers.

**Homestead Creamery**

Homestead Creamery is a dairy and processing facility located in Burnt Chimney, Franklin County, Virginia near Smith Mountain Lake, and is one of the leading self-processing milk producers in the state. The creamery was founded by Donnie Montgomery and David Bower and has been in operations since 2001. Goldenview Farm, owned by David Bower, and Storybrook Farms, owned by Donnie Montgomery, produce all of the approximately 615,000 gallons of milk that is processed through the creamery each year. At the dairy's on-farm shop, products including milk, ice cream, and sandwiches are offered for sale. As described on their Whole Foods Market profile page "All the milk at Homestead Creamery comes from two local farms, both in their third and fourth generations of family ownership. The milk is free of all hormones and antibiotics, and because the milk is sold in recycled glass bottles, it tastes fresher longer and is more environmentally friendly."

For more information, visit www.facebook.com/pages/Homestead-Creamery-Inc/152846474769734

**Community Supported Agriculture (CSA)**

CSAs, also known as "subscription farming," originated during the 1960's in Japan and Switzerland as a method for consumers to ensure the health and sustainability of agricultural producers. The idea of communities' direct support of local producers has steadily gained

[40] "New River Valley Food Directory." Virginia Cooperative Extension.
[41] www.swvafresh.org/local-foods---producers.html

momentum since their introduction in the U.S. in the 1980's, and has seen a somewhat rapid rise in recent years corresponding with revived interest in local foods.

CSAs remain an important form of direct marketing for local farmers seeking a more direct connection with customers and an ability to charge retail pricing for their products. As stated in the Virginia Foundation for Agriculture and Rural Sustainability's "Local Foods and the Value of Direct Marketing in Virginia," "A CSA can be as varied as the community it is located in and the producers who participate. While it is typically based around fruit and vegetable production, CSAs often incorporate an array of farm based produce, from vegetables, fruits, eggs, and meat, to more processed items such as jellies and jams."

The actual structure of CSAs and how they choose to operate is also variable, with some representing multiple farms, while others represent just individual farms offering a program. "Although CSAs take many forms, all have at their center a shared commitment to building a more local and equitable agricultural system, one that allows growers to focus on land stewardship and still maintain productive and profitable small farms."[42]

## Food Hubs

The USDA defines a regional food hub as "a business or organization that actively manages the aggregation, distribution and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand." Food Hubs combine local foods production, direct marketing, and aggregated distribution to service a community at the wholesale level with locally produced food. Food hubs have provided a means to address the concerns of individual farmers and midscale producers.

### Scale for Sustainability

The consultants have developed prototypical revenue and expense models based on typical cost and revenue structures to analyze the scale necessary to achieve breakeven and long-term viability. Results of the models below provide points of comparisons which highlight the various requirements of the business depending on the type of local food venture. The table below summaries the required sales levels to reach operational breakeven and long term viability.

**Table 2: Food Hub Sales Levels**

| Model | Sales Required to Breakeven | Sales Required for Long Term Viability |
|---|---|---|
| **Wholesale Food Hub** | $1.2 Million | $2 Million |
| **Retail Food Hub** | $860,000 | $1.7 Million |
| **CSA** | $260,000 | $470,000 |

Of the three models, a wholesale food hub provides the most return to farmers, but in turn requires the highest sales levels to reach the points of breakeven or long term viability. In order to reach these sales levels, the food hub must have a significant supply source and will likely require investments in warehouse and delivery infrastructure.

[42] National Agriculture Library: 1993 Community Supported Agriculture (CSA): An Annotated Bibliography and Resource Guide. http://www.nal.usda.gov/afsic/pubs/csa/at93-02.shtml

A retail food hub, which makes use of aggregation services as well as retail sales of local foods and products through a storefront, requires two distinct sections of the facility with adequate space and levels of staffing to operate simultaneously.
A CSA-based food hub requires the lowest annual sales level to attain long term viability. The use of volunteer labor is an important factor for success at this lower sales point. Without community support and proper management of volunteer labor, a CSA such as this would most likely be unable to remain in operation while maintaining such a lean business structure.

## Urban Agriculture

For numerous reasons, communities that do not have the traditional land base necessary for food production are finding ways to participate in agricultural activities through urban agriculture. The University of Missouri Extension Service defines urban agriculture as "the growing, processing and distribution of food crops and animals products within an urban environment[43]."

City/suburban agriculture is often backyard, roof-top and balcony gardening, community gardening, roadside fringe agriculture and livestock grazing in open space.[44] While not huge in terms of retail sales, it can provide a host of benefits to urban communities – neighborhood building, redevelopment of neglected areas, fresh produce for the food insecure, and youth entrepreneurial opportunities. Many community gardens offer these benefits in Montgomery County, including the YMCA Garden, Micah's Garden, and WIC Community Garden.

### Growing Power

Will Allen, former marketing executive at Proctor & Gamble, founded Growing Power in 1995 to teach inner city youth about growing food. Over the past 15 years, Allen has developed an integrated production system demonstrating local food compost and packaging wastes, using heat and fertility byproducts to grow greenhouse vegetables, fish tanks recirculating nutrients to plants, with worms breaking down the scraps and providing nutrients and bedding for the plants. Even more importantly, Allen has emphasized youth entrepreneurial development throughout this process, as food and worm castings are marketed to local restaurants and individuals without access to fresh, high-quality produce.

Now, Growing Power is a non-profit organization seeking to increase access to healthy affordable food in urban environments. Focusing on the development of Community Food Systems through agricultural activities the organization offers support for establishing farmers' markets, community gardens, and other agricultural outlets, as well as hands-on training and technical assistance with a focus on building sustainable food production in an urban setting, and has even created internships and training programs to teach others to create similar oases in their cities.

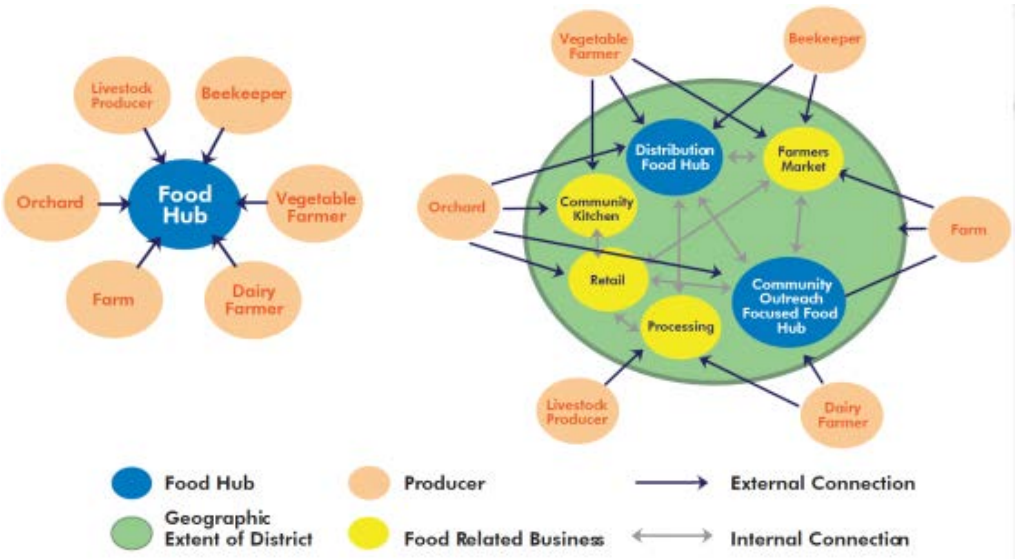
For more information, visit www.growingpower.org

[43] "Urban Agriculture." University of Missouri Extension. http://extension.missouri.edu/foodsystems/urbanagriculture.aspx. Accessed 6-25-14.
[44] "Urban Agriculture." United States Department of Agriculture National Agriculture Library.

## Community Food Systems[45]

Community food systems are often viewed as a collection of independent entities that will at some point reach a critical mass and affect the region. However, a more proactive approach focuses on combining the efforts of elected and civic leaders, local and regional planning personnel, economic development, and community champions is the development of "food innovation districts", or business districts that support the co-location and collaboration of businesses, including food hubs, business incubators, farm to table programs, food festivals and events, nutrition assistance, community kitchens, and urban agriculture. The figure below shows how this approach differs from the establishment of a singular entity such as a food hub.

**Figure 13: Food Hub vs. Food Innovation District**




Food Innovation Districts often have distinguishing characteristics that are either producer, community, or place oriented, or some mixture of the three. Producer oriented activities include encouraging production, farmers market activities, washing, grading, sorting infrastructure, or value-added processing. Community oriented activities include community kitchens, food pantries, and education and nutrition outreach programs. Place oriented activities are focused on festivals, fairs, events, and local cultural activities.

"Food Hub Innovation Districts: An Economic Gardening Tool," a document published by the Michigan Council of Governments in 2013 presents the example of the Grand Traverse Commons in Traverse City, Michigan: "Champions there found an opportunity to add needed producer-oriented elements such as shared storage and value-added processing equipment to the ongoing mixed-use redevelopment of an historic hospital campus. In Lansing, MI, champions became involved in the city's master planning process, which ultimately included food innovation districts as a tool for growing jobs, building health, and creating a sense of place."

Opportunities similar to this exist within the tri-county area. Price's Fork Elementary School, a decommissioned elementary school, has recently been purchased by a local developer interested

[45] "Food Innovation Districts: An Economic Gardening Tool." (March 2013). Northwest Michigan Council of Governments.

in turning the space into a multifunction facility that may include converting classroom areas into senior housing, kindergarten space into a daycare facility, and the cafeteria/kitchen area into a commercial kitchen space. Combining such a facility with local champions willing to work to further these and other ideas could provide new opportunities for local foods in the area[46].

## Produce Supply

The following table provides information from the 2012 Census of Agriculture published by the USDA in to show general trends in vegetables, fruits, and nuts.

**Table 3: Vegetable Production by County**

| Geographic Area | 2012 | | 2007 | |
|---|---|---|---|---|
| **Vegetables** | **Harvested** | | **Harvested** | |
| | **Farms** | **Acres** | **Farms** | **Acres** |
| Virginia | 1,656 | 21,072 | 1,616 | 26,265 |
| Giles | 21 | 18 | 7 | 10 |
| Montgomery | 20 | 77 | 11 | 36 |
| Pulaski | 1 | - | 3 | - |
| **Fruits and Nuts** | **Total** | | **Total** | |
| Virginia | 1,333 | 18,643 | 1,204 | 19,054 |
| Giles | 4 | - | 11 | - |
| Montgomery | 8 | 66 | 6 | 7 |
| Pulaski | 9 | 27 | 7 | 6 |

While commercial production exists within the area, there is little volume to support any large-scale production based activities such as single county aggregation. However, a regional approach to aggregation and distribution may be able to source sufficient inputs to move the volumes necessary to sustain a food hub or similar entity. The past five years saw a significant growth in produce production, demonstrating producer response to the growing consumer interest in locally grown foods. There are strong opportunities for the market gardener looking to scale up to the mid-sized wholesale market, or the row crop farmer wanting to delve into produce, without the marketing time and energy needed for direct sales to consumers. Anecdotally, farmers and extension agents report a severe shortage of locally grown fruits, observing that these items always sell out quickly at farmers markets, and the few pick-your-own operations in the region tend to do very well.

The Friends of the Farmers Market, Inc. in Blacksburg is currently in the midst of executing the Montgomery County Farm to Community Planning Project, a survey of farmers, consumers, and venues in Montgomery County to determine where new opportunities may be for local foods. With funding from A Southern SARE (Sustainable Agriculture Research and Education) Sustainable Community Innovation Grant and

[46] Telephone Interview with Kevin Byrd, NRVPDC, 5-9-2014.

a USDA Community Food Project Grant, these surveys are assessing opportunities for growers, as well as particular needs for fresh food availability for low-income residents of the region.

While the producers and venues portions have been completed, the survey of consumers is ongoing. This portion focuses on individuals receiving food assistance from local food pantries. This population is emphasizing their lack of access to fresh healthy foods. They would like to grow more of their own food, but are hindered by the lack of land access for community gardens.

Preliminary results from all three segments indicate a strong demand for locally grown food. Producers who were surveyed indicated that direct marketing was one of the main ways they would like to expand their production, and many of the venues that were surveyed, especially smaller independent grocery chains, were already selling local produce and expressed their willingness to work with producers on an individual level.

Larger retail establishments have indicated that they are interested in sourcing local foods, but do not feel there is enough local supply available. This was confirmed by the producer portion of the survey in which producers identified the inability to produce adequate quantities as one of the main challenges with expansion. Along with lack of supply, responses indicate that other major barriers and challenges center around land and labor access, as well as issues with processing both produce and meats. When asked what type of training would be helpful, responses included business planning, marketing and promotion and lending and grant assistance.

While it may be cost prohibitive to conduct a survey of all restaurants and grocery stores in Giles, Montgomery, and Pulaski Counties to determine precise price and quantities for selling local food products, tourism and economic development personnel may also be able to provide a basic list of entities within their respective counties that make a practice of sourcing local foods. This would provide a springboard for farms interested in beginning local foods programs to have a target list of potential customers for their products within their county, particularly in regards to local independent grocers that seem willing to work with individual producers.

Future additional work to contact and verify the demand represented by the list of entities could also be conducted. This would further facilitate increased sales of local foods for producers interested in beginning such sales. Having at least potential demand already identified within the region would provide some confidence to producers who are interested in selling local foods to such entities, but are concerned about the risks of selling into an unknown or unidentified market, particularly since producers are reluctant to grow product without a ready market.

While independent grocers may be willing to work with individual farmers, larger chains focus on getting significant supply volume to meet their needs. These entities are likely to require information, such as financial position, marketing plans, and farm background, before agreeing to source products from a producer or aggregation entity. Larger volume entities, including local institutions, are also likely to require a steady and predictable supply, with many needing GAP certification indicating proper fresh produce handling procedures. With produce growers in the New River Valley generally small scale, there will need to be some coordination of production and consolidation of delivery necessary to meet those growing customer needs in the future.

## Analysis

The Blacksburg Farmers Market continues to grow as an opportunity for area farmers and a focal point for local food production. However, the recent split around "growers only" questions, resulting in a resellers market springing up outside of town, has led to consumer confusion about local agriculture. The town of Blacksburg should strengthen its farmers market ordinance to support locally grown products, to be distinguished from outside products being resold under the guise of a "Farmers Market." Clarifying this local nature which is the comparative advantage for area growers is essential to grow the local producer sector.

While these direct marketing channels serve as outlets primarily for smaller-scale operations, there are additional opportunities for larger scale produce growers. However, further growth and market access for mid-scale producers require different methods to access larger volume markets.

Virginia Tech has expressed interest in increasing their use of local foods from 12 percent to 20 percent by 2020. The University has expressed an interest in buying more from local producers, but they require a critical mass of consistent product to meet their needs. Small farms could benefit from coordinated crop scheduling which allows them to harvest an amount sufficient to tap into this larger market opportunity. This could begin with a pilot project on a single item, and then broaden to additional items once the system is running smoothly.

The area lacks a food hub to consolidate the production of multiple farms, as well as a value-added processing center to spur the development of food-based entrepreneurs. Because of the low production of produce, leadership should explore the ability of a food hub to provide a larger-scale supply for entities that need more product than individual farms can supply.

A smaller scale alternative would be to encourage the establishment of local CSA's. These could be cooperative ventures utilizing the output of a wide range of farms: produce, meat, honey, fiber, baked goods, etc. Community centers, churches, and hospitals could serve as advertising locations and drop-off points for farms looking for a convenient and consistent customer base. Leadership should seek partnerships, such as school PTA's, to help with outreach and distribution. Such small scale activities will eventually provide a base of supply and demand that can facilitate the expansion of agriculture in the region well into the future.

Red Sun Farms is investing $30 million to build climate controlled greenhouses on 45 acres to produce hydroponic and organic vegetables at the New River Valley Commerce Park in Dublin. As the first tenant of the park, Red Sun Farm is expected to create 205 new jobs within 5 years. This has the potential to make the tri-county area the greenhouse vegetable capital of the east coast. The region should seek to attract other businesses supplying Red Sun and to establish a training program connecting local schools with the greenhouse vegetable industry's needs.

There are ongoing activities to promote access to local food resources in the region. The New River Valley Planning District Commission has begun work to tailor and update the New River Valley Local Food Directory with listings of producers and places where local foods can be purchased as well as other agriculture related resources. The Southwest Virginia Fresh and the 'Round the Mountain website provide listings of local foods outlets such as producers, farm stands, farmers markets, etc. In addition, there are other non-local based entities such LocalHarvest that provide such listings. Several pamphlets and local foods guides covering entities within the region have also been produced for distribution both in print and online form.

Tools such as these can be a means of providing visitors and residents with information regarding local foods and producers. According to USDA documents[47] the strengths of databases and information repositories like these include easy access to information, one-stop shopping, directly providing essential information, and being user-friendly. Leadership should review the efficacy of some of these sites according to these areas in order to determine the best route to provide information to potential users and customers and consider revisions to existing methods of communication. Currently, local foods information seems to be somewhat fragmented in its presentation across numerous different websites, and is not easily located with a simple web search.

In keeping with the goal of coordination, entities located in the tri-county area should seek a greater degree of streamlining of these resources, not only to provide some consistency in presentation, but also to provide assurance that the listings on the sites are complete and regularly updated to reflect new entities and those that may have ceased operations, as well as avoiding duplicative efforts among cooperating entities.

[47]USDA/CSREES/ECS "Small Farmer and Beginning Farmers and Ranchers Coordinators Meeting: Enhancing Economic Opportunities for Small Farmers and Ranchers"

# AGRITOURISM

While the focus on agritourism activities may have grown in the last few years, it has been a viable way to supplement farm revenue, diversifying income streams and contributing to the ability of farmers to remain in business. As stated in the Virginia Cooperative Extension's (VCE) "A Geographic Analysis of Agritourism in Virginia[48]," "Agritourism is a feasible business venture that may decrease financial risk by supplementing income as well as diversifying revenue streams." The report outlines how expansion into agritourism can help farmers diversify, cope with increased costs, and help provide supplementary income during bad production years.

Deciding on a definition of agritourism is central to outlining a strategy for increasing activities. Understanding and agreeing on what activities can be included under this designation will help focus any programs or policies and allow for easier measurement of success or failure.

The Code of Virginia, in § 3.2-6400 defines "agritourism activity" as "any activity carried out on a farm or ranch that allows members of the general public, for recreational, entertainment, or educational purposes, to view or enjoy rural activities, including farming, wineries, ranching, historical, cultural, harvest-your-own activities, or natural activities and attractions. An activity is an agritourism activity whether or not the participant paid to participate in the activity."

[48] Lucha, C; Gustavo, F; Walker, M; & Gordon, G. (2014). "A Geographic Analysis of Agritourism in Virginia." Virginia Tech Cooperative Extension. http://www.pubs.ext.vt.edu/AAEC/AAEC-62/AAEC-62-pdf.pdf

While the Code of Virginia defines agritourism by limiting it solely to producer activities centered on farms or ranches, the Agricultural Marketing Resource Center provides a broader definition: Agritourism "describes the act of visiting a working farm or any agricultural, horticultural or agribusiness operation to enjoy, be educated or be involved in activities."[49]

According to the Virginia Tourism Overview for 2012 as published by the Virginia Tourism Corporation, Virginia tourism generated $21.2 billion in domestic visitor spending and provided 1.36 billion in state and local tax revenue, and the largest single expenditure sector of tourism was food service at 28 percent of total expenditures.

Many activities already have a clear relation to agricultural entities such as farms, ranches, food production, and other natural resources. Other opportunities exist by targeting a consumer or individual mindset or group that may also be interested in agritourism given their propensity for other activities in the region. Any significant grouping of people can serve as a potential market if approached with creative marketing and "outside the box" methods.

While agritourism is often seen as a method of assisting smaller and medium scale farmers, larger producers can also participate in agritourism activities without having on–farm activities or visits by participating in tourism focused sales. These types of participants can dedicate smaller portions of their larger farms for growing crops that are more suitable for local sales.

An Economic Development Report produced by Colorado State University and Extension provides a framework for categorizing this type of traditional agritourism: On-Farm Activities, Food-Based Activities, and Heritage Activities. While this is a familiar concept, only the Heritage category begins to touch on an expanded definition of agritourism by including historical sites and associated events and activities.

**Table 4: Sample List of Agritourism Activities/Ideas[50]**

| On-Farm |
|---|
| **Examples**: Hay rides, horseback riding, bird-watching/wildlife viewing, special events: weddings, retreats, family reunions, meetings, photography and painting, farm or ranch work experience (roundup, branding, haying, fencing, calving, etc.), u-pick operations for fruits, vegetables, Christmas trees, corn mazes, wagon rides, children's camps, seeing and feeding farm animals, hunting and fishing, (guided or unguided), snowmobiling, cross-country skiing, off-road motorcycling, mountain-biking, school and educational tours, tour of farm or ranch operation, on farm/ranch get-a-way, Stay at a dude ranch. |
| **Establishments**: Ag venues (Farm events and activities, weddings, hayrides, etc), experience the farm: tours, petting zoo, pick-your-own, on-farm lodging. |
| **Food-Based** |
| **Examples**: Harvest and food festivals, farmers' markets, winery tours and tastings, microbrewery visits, food processing site visits (cheese, jam, cider). |
| **Establishments**: Farm stand, farmers' market, local restaurants/grocery store, pick-your-own, winery/brewery/distillery. |

[49] www.agmrc.org/commodities__products/agritourism/ Accessed 5-22-14
[50] Adapted from "The Economic Impact of Agritourism in Virginia's Fields of Gold Region." (July 2012). Chmura Economics & Analytics.

| Heritage |
| --- |
| **Examples**: County fairs, historical museums, agricultural history sites, pioneer settlements, rodeos, stock shows. |
| **Establishments**: Historic/scenic sites, Crooked Road, Appalachian Trail. |

## Limited Definition Agritourism

The tri-county area already exhibits examples of agriculture-focused tourism activities like the ones listed above; the following are selected examples for reference purposes.

### Sinkland Farms

Sinkland Farms is located along the Blue Ridge Mountains, which creates beautiful scenery for the Farm. Sinkland Farms primarily focuses on aspects of agritourism, including educational tours, weddings, musical events, and the annual Sinkland Farms Pumpkin Festival. They have previously been recognized for their uniqueness and value. For example, in 2013 the readers of Blue Ridge County magazine voted Sinkland Farms Gold, Best Farms to Visit. The Farm has also been featured in magazines, such as *Blue Ridge Country* and *Bridebook*.

For more information, visit *www.sinklandfarms.com.*

### Blacksburg Farmers Market

The Blacksburg Farmers Market is located in the heart of Montgomery County a few minutes away from the Virginia Tech campus. It is open year round and features many local vendors along with farmers from all over Virginia and West Virginia. The market's vendors sell an assortment of items including vegetables, fresh herbs, handcrafted goods, meats, flowers, and other value-added goods.

For more information, visit *www.blacksburgfarmersmarket.com*

### Due South BBQ

Due South BBQ was started in 2007 in Christiansburg, VA after the owners moved their BBQ business from South Carolina. This local business offers smoked pulled pork BBQ made with local ingredients. Due South BBQ also uses 100% compostable packaging, which includes bowls, cups, lids, straws, and napkins. They are committed to using sustainable materials as well as composting and recycling their waste.

For more information, visit *www.duesouthbbq.com/#!home*

## Expanded Definition Agritourism

The three-county region hosts numerous festivals and other event type activities. Because of the regional approach desired and the variety of agriculture related entities contained within the tri-county area, the internal definition of agritourism should be broadened to be as inclusive as possible and maximize the effects of agricultural activities in the region. Rather than a narrow focus on farmers and ranchers, the region should also attempt to tap into ordinary tourism by including an agritourism or local food component in already established and successful tourism activities or events, particularly given the steady growth tourism has experienced in the state. A Virginia Cooperative Extension report states "with the exception of years surrounding the recent economic recession, there has been a steady increase in revenue from the Virginia tourism industry over the last decade." [51]

One example of an activity that typically provides an influx of potential customers to an area includes visitors arriving or traveling through the region for the purpose of **viewing fall foliage**. Other states have established tourism activities that focus on this seasonal event, and include "Fall Color Reports" to highlight when fall colors are at their peak, "Fall Foliage Tours," or the organization and coordination of festivals to take advantage of the season's colors. Closely associated with harvest, the fall season offers an easy method of tying local foods with a reason visitors may already be coming to the area.

### Appalachian Trail

As the longest continuously marked footpath, the Appalachian Trail stretches 2,184 miles along the Appalachian Mountains. The trail stretches across 14 states, starting in Georgia and ending in Maine. The trail was built by private citizens in 1921 and completed 16 years later. It is used by more than four million people each year and about 2,500 people have attempted to hike the entire stretch in one continuous journey. Giles County, Virginia contains about 50 miles of the Appalachian Trail as it runs between Dismal Falls through Mountain Lake. According to the *Roanoke Times*, "The town sees an influx of trailgoers every year…likened to a 'migration of birds.'"

For more information, visit *www.nps.gov/appa/index.htm*

[51] (2014) "A Geographic Analysis of Agritourism in Virginia." Communications and Marketing, College of Agriculture and Life Sciences, Virginia Polytechnic Institute and State University.

The proximity of the area to Virginia Tech and it associated **sporting events** provides an opportunity to access another pool of potential customers. Offering local foods for sale near sporting venues, or "tail-gating boxes" filled with grill and cookout friendly local produce could provide a potential sales outlet.

Besides the direct agriculture examples listed in the preceding section, the following selected examples represent other heritage and tourism opportunities and activities that could serve as targets for an expanded agritourism effort.

### The Crooked Road: Virginia's Music Heritage Trail

The Crooked Road was implemented in 2003 as way to help promote tourism and economic development in southwestern Virginia. The idea behind The Crooked Road focuses on the region's musical heritage, scenic terrain, and cultural activities. The road includes ten counties, three cities, and ten towns; it encompasses Franklin, Floyd, Patrick, Carroll, Grayson, Washington, Scott, Lee, and Wise counties, ending in Dickenson County.

The area is known for its connection to bluegrass music and often holds music festivals throughout the year. The close proximity of the Crooked Road opens up many opportunities for the three-county area. Although the trail is mainly centered on the area's passion for music, there may be possibilities of incorporating local foods and farmers to help further promote the county's agricultural industry.

While the Crooked Road does not pass through any of the tri-county areas, there are affiliated venues located in each of the three counties:

- Giles: Anna's Restaurant, Henry Reed Fiddler's Convention
- Montgomery: Blacksburg Market Square Jam, Blacksburg Square Dance
- Pulaski: Hillbilly Opry, New River Community College Fiddle, Banjo and Dance Club

For more information, visit *https://www.myswva.org/tcr*

**Nutrition Education**

Education outreaches also provide a way to increase awareness of local agritourism activities while simultaneously attempting to attract young and future farmers as well as create a feeling of community. Regardless of the intent of such programs, they can result in getting new people to be involved in agriculture activities and become more familiar with producers in their area. This

can serve to drive interest in official agritourism activities or even just create a greater awareness of producer activities.
A focus on education and nutrition also serves to link with the mission of Virginia Tech, and working with their existing programs to utilize resources can alleviate some of the burden from local producers in finding ways to be involved.

**Concerns Regarding Agritourism**
While tourism can have many positive aspects on a region's economy and job market, there are also concerns associated with the success of large-scale tourism initiatives. When tourism efforts are successful, they often result in an influx of non-residents and new residents to an area, a fact that can often change the culture and dynamic of a region. Because the regions culture is often the foundation of the successful tourism initiative to begin with, this change can result in negative perception, especially by permanent or long-term residents of an area who were initially attracted to the regions character and scenic nature to begin, a fact that has now changed due to the influx of new residents or non-resident tourists. The ramifications of new tourism initiatives should be considered, and policies enacted that protect the areas resources while still permitting access to as great a number of people as possible.

## Consumer Segments and Strategies

Within each opportunity targeted in order to increase agri-tourism in the region, specific campaigns and materials should be constructed that address unique consumer segments with focuses strategies that relate to them. The following sections propose categories with descriptions[52] which may help organize and focus activities within the region to target specific types of tourists. Efforts to increase agri-tourism activities should identify and utilize efforts to target these audiences with specific approaches that may need to be unique to each category.

**Out of State Activity Seekers**:
Participants in this category are mostly out of state visitors who arrive by plane or car and explore the state or region for a longer trip (approximately six days on average). This segment is primarily composed of mid-to upper-middle class families traveling with children and staying in hotels or with friends/family. While their focus may not be agritourism, they often participate in unplanned agritourism activities during their visit, primarily culinary events, but also on-farm or heritage activities. Their travel is mostly planned using the internet, and they are likely to make significant use of State Tourism resources and Welcome Centers.

Because of the three-county area's proximity to the major thoroughfare of I-81, this particular segment represents a significant opportunity for the region. The "Geographic Analysis of Agritourism in VA" document produced by Virginia Cooperative Extension sites the following information sourced from the Virginia Tourism Corporation: "According to the electronic door count at welcome centers in Virginia, there has been a steady increase in visitors from just shy of 1.4 million in 2007 to more than 2.3 million in 2012."

[52] Adapted from EDR 07-24 Colorado State University Department of Agricultural and Resource Economics Economic Development Report. "The 2006 Economic Contribution of Agritourism to Colorado: Estimates from a Survey of Colorado Tourists."

**Recommended Method of Engagement: Pamphlets (welcome centers, hotels, car-rental counters, etc), Well-designed and User-friendly websites, specifically linked to larger regional sites or state tourism sites. Co-promotion with culinary entities. Use of Travel Industry Partners or Destination Partners (visitor centers and welcome centers)**

**In-State Explorers:**

This category is composed primarily of in-state residents who tour the state using their own vehicles for long weekends or short trips (approximately 4 days on average). They typically stay in hotels or with friends/family. They are typically equally likely to choose culinary and educational and nature-based on-farm experiences, but most of their agritourism activities remain unplanned. Rather than the internet, their trip planning is often based on past experience or recommendations from friends and family and they are also affected by seasonality.

**Recommended Method of Engagement: Local Advertising, primarily including diverse activities/cross-promotion.**

**Loyal Enthusiasts:**

These individuals are primarily in-state travelers and are parents or couples who return often based on past experiences. They are the primary participants of outdoor recreation on farms and ranches during the summer. This group is most likely to camp and shows significant interest in traveling throughout the state. They often participate in a diverse set of agritourism activities and most of their trip planning is based on past experiences and personal web searches to allow them to tailor their trips specifically to their interests. This group can be found participating in heritage type activities such as visiting the Appalachian Trail or New River Scenic Seven locations.

**Recommended Method of Engagement: Offer cross-promotion or cluster activities. Needs include being able to get the information they seek to make their plans (tailored to their interests).**

**Accidental Tourists:**

This group represents the least promising agritourism visitors from a marketing perspective. This segment visits mostly in summer and winter, either by car or air, and stays mostly in hotels or with friends and family. They travel primarily without children or by themselves, and may be coming for non-recreational business, educational, or convention activities. While this group is only in the state for a few days with small windows of time for leisure for which they may not have planned, they may look for activities to occupy their free time. In short, they are not seeking agritourism activities and a very low share of their total activities take place in the region.

This group could best be targeted by presenting easy to access information about activities in nearby locations that are not time-consuming to access or enjoy. Collecting such information in a "Looking for Something to Do?" type-binder for access in hotel lobbies or in individual rooms, or as an electronic document promoted on the home page of a hotel's internet access page could provide heightened awareness of local activities to these types of tourists. This segment may also be targeted by combining local foods with activities so that individuals can take care of a necessity such as eating while participating in local culture or activities.

**Recommended Method of Engagement: Advertisements in Hotels, Airports, and Car-Rental Counters, showcase local and easily accessed activities because of their time constraints.**

**Family Ag Adventurers:**

This segment travel's from nearby states in their own vehicles, mostly in the summer, with an average length of stay of approximately 5 days. Although most of their agritourism activities are unplanned, they participate significantly in local activities and often pre-plan their activities based on past experiences and recommendations from others as well as Web-based information searches. They are middle income and willing to visit local enterprises, and gravitate toward educational and nature-based on-farm experiences as well as active farm and ranch activities and culinary experiences. Because these trips are often considered big family vacations, this segment of travelers will often not return to an area on a regular basis.

Having a coordinated "one-stop-shop" resource for these types of individuals and families can provide ease of access and awareness during the trip planning process. While there are numerous individual sites such as county or chamber of commerce websites, Heartwood, 'Round the Mountain, and others, many of them could be better linked in an easy to follow format that provides a better showcase of the regions attractions and activities.

**Recommended Method of Engagement: Provide easy planning access through web portals.**

## General Lessons:

- The Family Ag Adventurers' and the Loyal Enthusiasts' travels are most likely primarily driven by plans to participate in agritourism activities, one of the main reasons they are considered great opportunities for growing the industry.
- Past experiences and recommendations were among the most frequently mentioned, but personal experiences were particularly important for Loyal Enthusiasts and In-State Explorers, while family Adventurers also relied on recommendations from others.
- Web resources were also commonly used, especially among the out-of-state visitors such as Activity Seekers and Accidental Tourists. Tourism Office and Welcome Centers are

also important to these segments, because of their interest in agritourism: a strong signal that partnerships with the Tourism Office would be fruitful in growing this segment.

- Two of the target segments, Loyal Enthusiasts and Family Ag Adventurers, frequently use travel associations, park brochures and other print materials to plan their trips; however, since signage is a last-minute unplanned piece of information, it is logical that the in-state travelers use it most.
- Some activities cannot be performed on a "spur-of-the-moment" basis, as they require advanced planning (purchase of fishing license) or purchase/rental of specialized equipment. Entities providing such activities will need to target their marketing to capture potential customers during their planning process.
- In order to leverage scarce resources, entities should consider investing in a functional informative website and promotion through state welcome centers to target the broadest range of interested segments.
- In general, getting information to travelers prior to or during their planning process will provide the greatest opportunity to attract visitors.

## Analysis

Agritourism vision sessions were conducted by county personnel with extension agents and producers in each of the three counties and the main points from these meetings are included in the Appendix. The "advantages to include in marketing" sections of these notes for each county provide numerous ideas related to the three categories outlined in this Agritourism section (on-farm, heritage, food-based), and should form the basis for any strategic implementation or marketing program.

Each of the advantages that were outlined by session attendees should be further categorized to determine what consumer segment would be most drawn to each activity or resource, and hence what marketing strategy should be focused on. For example, Out of State Activity Seekers and In-State Explorer consumer segments would very likely be interested in the New River shoreline and Appalachian Trail resources listed under Giles County. Marketing tailored to the demographics and needs of this consumer segment could form the basis of marketing materials and any outreach programs that are implemented.

Some of the activities that already exist in the region also suggest ideas for establishing an even stronger connection to the producer and farm entity. Farm tours could be set up through coordination and promotion with food-based events that already have been established. The Blacksburg Farmers Market could organize a "Meet the Farmer" day that includes a meeting at the Farmers Market and a subsequent tour of selected farms that supply the market. Restaurants that feature local foods could promote a similar farmer-organized event that would allow the restaurants customers to meet and then tour farms that supply items to the restaurant and then meet back at the restaurant for lunch or dinner.

One approach to promoting agritourism is to look for ways to expand the traditional definition of agritourism to include a broader more expansive view that focuses existing tourism activities on including an agriculture component. Examples may include:

- Local food at biker rallies.
- CSA's baskets to fans attending sporting events.
- Selling fire-wood bundles to sporting fans.
- Local food festivals as part of the leaf watching period in the fall.
- Hokie-oriented products. Grads and fans have an emotional connection to the University.

Seeking to tie agriculture-related activities that specifically target those coming for hiking or outdoor visits or cross-promotion with the heritage sites included in the New River Scenic Seven program may attract similarly-minded potential customers and give them a new reason to return to the area. Targeting these individuals through nearby Appalachian Trail stop-off towns or through cross-promotion with whitewater activities can provide opportunities to make connections between this segment of tourism and local farms. This group of individuals could provide a ready pool of potential customers or those already interested in outdoor activities that may be more inclined to participate in agritourism events. Materials and other forms of promotion could be combined to divert some flow of potential customers to agricultural-activities.

Highlighted festival events or locations could serve as focal points for agritourism promotion and supplementary activities. Further opportunities would need to be explored with the organizers or owners, but would provide at least an immediate plan of action for expanding agritourism related activity in the region.

Overall, the Agritourism sector appears entrepreneurial and diverse, offering a range of options for both locals and visitors. County, regional, and state resources are available, and a network of practitioners is developing. Ultimately, the ongoing growth and success of this sector will depend on the connections which are created between different operations. Lodging, eating, entertainment, recreation, and gift opportunities can be tied together to provide a full slate of services. Extension, Tourism, and Chamber of Commerce personnel all have an interest in developing these partnerships; it is up to the individual farm operations to seek out and expand these relationships.

# WINE, BEER, & CIDER

Virginia has an established and well regarded wine industry, which, as reported in the Virginia 2012 Commercial Grape Report, has grown to include 2,974 bearing acres as of 2012, a nearly seven percent increase from 2011 figures of 2,784 bearing acres. The value of grape production was nearly $11 million according to USDA ERS reports for 2012.

According to the Virginia Wine Board's Economic Impact Study of 2010 the overall retail value of Virginia wine was roughly $73 million of revenue, with direct sales accounting for $30 million of this figure. The figures for overall economic impact are even larger with the Virginia Wine Industry (including wine and grapes) contributing over $747 million to the state economy according to the same report. It is important to note that part of this total economic impact figure includes $131 million in wine-related tourism from 1.6 million tourists as well.

Overall, 95 percent of Virginia wineries can be classified as small producers (which is defined as those producing less than 10,000 cases annually). This growth in the amount of wineries has resulted in Virginia ranking 5th in the U.S. in quantity of wineries located in the state, with 222 wineries as of 2013.[53] While there are niche production markets centered on a variety of inputs for making various wine varieties, the majority of wines produced in Virginia are focused on grapes as an input source.

[53] "Wine Industry Profile." USDA Agricultural Marketing Resource Center. Accessed 7-10-14. www.agmrc.org.

Fueled by increasing interest in local, craft, and artisan style alcohol production, and increased interest in the unique varieties and flavors produced by wineries in the state, new opportunities have arisen for producers to meet this demand and further capitalize on their production through related agritourism activities. The wine industry in Virginia has proven to be an example of how agritourism and agricultural growth can be positively linked.

The Virginia Cooperative Extension's Agritourism Report states:

> *"As a prime illustration of how agritourism can support the agriculture industry, one can point at the Virginia wine industry and its notable growth. In 1979, there were only six wineries in the state, a number that increased to 130 by 2007 (VDACS 2013a). In 2013, there were 248 wineries — a 90 percent increase over 2007 statistics (Virginia Wine 2013). Importantly, from 2005 to 2010, the economic impact of the Virginia wine industry almost doubled to $750 million, and tourists associated with wineries increased by 620,000 over that same period (Felberbaum 2012). Furthermore, industry-related jobs also increased by nearly 1,600 in the same time period (Virginia Wine 2013). In summary, future synergies between a declining agricultural industry and an expanding tourism sector could provide additional revenue to Virginia's primary industry and create an economic revival in rural areas, as exemplified by the wine industry."*

Virginia wines are gaining national and international recognition for their qualities. Virginia's terroir – those special characteristics of the land that affect wine – helps vintners create wines stylistically between those of California and Europe. Several publications and recent articles reveal that Virginia is becoming well regarded for its wine production.

- The *Washington Post's* Dana Milbank highlights how Virginia Wines are beginning to compete with fine wines from California and Europe[54].
- The *New York Times*' Eric Asimov discusses the rise in quality and popularity of Virginia's dry cider offerings.[55]
- *Travel and Leisure* magazine's Bruce Schoenfeld proclaimed Virginia one of five up-and-coming wine regions (along with areas of Chile, Italy, Spain, and New Zealand) that "should be on the must-visit list of any adventurous wine traveler."[56]
- In *The Atlanta Journal and Constitution*, a reviewer wrote that "Virginia is making Cabernet Franc and Viognier wines that are world-beaters." Writing for *Saveur*, wine critic Paul Luckas named two Virginia Viogniers among the best available.
- In 2010, the Virginia wine industry was the subject of a documentary movie, *Vintage: The Winemaker's Year*. Since that time, the movie has been shown on PBS stations in Virginia and across the country.

While grape-growing and the establishment of wineries is a fairly new area of growth for the tri-county area with few large-scale producers, wine and grape production represent opportunities for growth and expansion in the future that can significantly impact the area.

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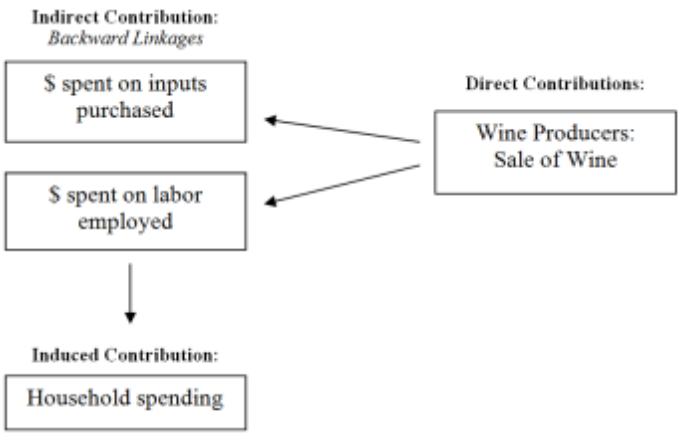
[54] Milbank, Dana. "Vineyards that are putting Virginia on the fine-wine map" (November 21, 2013).Washington Post Magazine. www.washingtonpost.com. Accessed 7-9-14.

[55] Asimov, Eric. "Dry Cider, an American Favorite, Rebounds." (November 8, 2013). The New York Times. www.nytimes.com. Accessed 7-9-14.

[56] www.vatc.org/newsletter/dashboard2010/dashboardOct2010.html. Last cited 4/1/2011.

A recent study produced by Colorado State University[57] provides some economic multiplier figures that were used to estimate the increase in economic activity for Colorado. The study utilizes IMPLAN (Impact Analysis for Planning) software to deduce multiplier figures that apply to the wine and related industries in Colorado. The following figure describes the IMPLAN multipliers components.

**Figure 14: General Framework of Economic Contribution Analysis[58]**




Taking into account the direct, indirect, and induced contributions by wineries to the overall economy in Colorado, it was found that for every $1 of wine sold, there was a contribution to the economy of $1.65. This composite figure does not reveal the individual effects of different scale producers and businesses and their relative contribution to the economy. Further work was conducted to examine how the production volume of the winery affected its ability to impact the economy. The study further estimated the total effects of various size entities and their overall impact on the economy. The results are summarized in the following table.

**Table 5: Colorado Economic Contribution Multipliers by Entity Scale**

| Entity Size (# of Cases) | Multiplier | Explanation |
|---|---|---|
| Large (>4,800) | 1.73 | For every $1 spent, the economic contribution is $1.73 |
| Midsize (700-4,800) | 1.64 | For every $1 spent, the economic contribution is $1.64 |
| Small (<700) | 1.53 | For every $1 spent, the economic contribution is $1.53 |

Facilitating the growth of the wine industry in the tri-county area thus has the capability of significantly impacting the region. Because the economic effects of every dollar of wine sold impact more than just the producers conducting sales, efforts to promote this industry in the region can result in benefits to the entire region.

[57] "The 2012 Economic Contribution of Colorado's Wine Industry: An Overview of Sales Growth, Winery Economics and Tourism." Colorado State University, November 2013.
[58] "The 2012 Economic Contribution of Colorado's Wine Industry: An Overview of Sales Growth, Winery Economics and Tourism." Colorado State University, November 2013.

While grape growing and wine production in the tri-county area can be considered a nascent industry, and encouraging farmers to consider this as a viable option for diversifying their current operations, finding ways to move existing producers to greater volumes of production can increase the economic contribution of their sales in a shorter time horizon.

## Supply & Demand

From discussions with extension personnel in the region, it appears that there exists a significant demand for grapes, a market condition that has led to the increase of vineyards and wine and related activities in the region. The table below provides information from the USDA Census of Agriculture for 2007 and 2012 for the three-county region that is the focus of this study.

**Table 6: Acres in Grape Production 2007 & 2012**

| Geographic Area | 2012 | | 2007 | |
|---|---|---|---|---|
| | **Farms** | **Acres** | **Farms** | **Acres** |
| **Virginia** | 660 | 4,371 | 517 | 3,258 |
| **Giles** | 2 | - | 3 | 1 |
| **Montgomery** | 2 | - | 4 | 1 |
| **Pulaski** | 3 | <.5 acre | 7 | 1 |

While land in the region is suitable for grape production, the acreage seems to be below the tracking level of official statistics at the time of this latest Census. There has been a response of the area's producers to the increased demand for locally produced wine grapes. Conversations with Extension agents familiar with the region suggest that since the Census there has been a significant increase in vineyard plantings, with increases in vineyard plantings in throughout 2013. In 2014, Montgomery County producers planted approximately nine additional acres, Pulaski planted five, and Giles producers planted ten acres since March alone.

Though the area is experiencing increased demand, increasing production requires a long-term view, as vines can often take five to seven years before a usable harvest is produced. Extension agents mentioned that demand still outpaces production, and with the production lag inherent in wine-grape production, this condition is likely to persist.

### Producers

The area has a wide range of interest in grape and wine production, from those with a passing interest to experienced vintners. The areas producers can be loosely grouped into two categories.

> **Category 1**: Producers interested in diversifying their existing operations by adding small parcels of land dedicated to grape production, often seeking to utilized unused land space or carve out smaller 2.5-5 acres sections for plantings. These producers are seeking ways to access the high value market exhibited by wine-grape production, but are seeking ways to mitigate the cost of infrastructure and labor associated with a large-scale operation, particularly given climate, topographical, and knowledge-gap risks.
>
> **Category 2**: Producers with existing grape production that are interested in capturing additional value through processing their own grapes into proprietary wines. These

producers are faced with addressing significant infrastructure and equipment needs as they seek to expand operations or add the production of wines to their on-farm activities.

Each category has unique production needs, but both often have similar information and educational needs. Those interested in beginning small-scale production are interested in adding value to their current crop offerings and are looking to maximize the value of a new crop planting. They require experience-based information regarding best practices, how to address production issues including disease and pest control, selecting the proper varieties for the regions climate and topography, and land suitability assessment. Those with established production are seeking expertise-based information on incorporating value-added wine production, as well as establishing agritourism related activities such as tasting rooms, wine trails, and other on-farm activities. Both categories can benefit from centralize information sources that address the production stage they are currently operating at, and access to educated and experienced labor.

Grapes are a new specialty crop in the region, and there are established information sources available regarding sound production practices and issues. The main obstacle highlighted by those who were contacted regarding the wine and grape industry in the region is one of access. Those who are experts on viticulture and enology are centered in grape and wine intensive sectors of Northern Virginia, and are often difficult to contact because the recent interest within the state in grape and wine production. Information centers are located at some distance from the three-county area, and producers have difficulty accessing the knowledge and experience represented within the education network.

Producers seem to be aware of the importance of learning lessons from other successful entities and programs in the state, as well as utilizing resources provided by state-level and regional organizations such as the Virginia Vineyards Association, which provides a Summer and Winter Annual Technical Meeting to address operational issues related to wine grape production.

To address the need for information for new producers or those interested in exploring wine related opportunities the NRV Grape Growers Association has coordinated efforts. Meetings are conducted four times a year by producers who serve as hosts for that particular meeting, with the goal of getting like-minded producers to collaborate and share information.

Producers, both potential and established, face some unique climatological and topographical obstacles that distinguish their production needs and obstacles from other counties in the state. These obstacles include cooler weather, a shorter growing season, mountainous terrain, and forested land located near grape production that represents a hazard to production due to its likelihood of harboring herbivorous animals and wild flora with harmful diseases unique to the region because of its climate.

Virginia Tech’s Department of Department of Plant Pathology, Physiology, and Weed Science Department and Virginia Cooperative Extension have taken steps to begin addressing the specific production obstacles of the region through establishing warm weather cover crop trials

and the future publication of a technical bulletin addressing specific issues related to steep topography and the use of cover crops in mitigating production issues.

The University of Minnesota has worked to develop and maintain information on cold hardy vines and grape varieties that can be used for viticulture purposes including wine-making. The university has fostered a breeding program established in the mid-1980's to develop high quality, cold hardy, and disease resistant grape cultivars, including four outstanding grape varieties that are producing Medal Winning Wines: Frontenac, Frontenac gris, La Crescent, and Marquette. There has been limited production using some of these varieties in Pulaski County, specifically Frontenac and La Crescent, and it appears that these varieties have been performing well.

Another method for addressing large-scale production obstacles is by maintaining smaller on-site acreage and contracting or leasing production from other regions of the state. **Attimo Winery**, with headquarters located in Christiansburg, produces wines from their own grape production, but according to their website also operates long-term leases with vineyards in Charlottesville and Bedford. This may serve as a model for others interested in beginning a winery in regions that do not lend themselves as easily to high production volumes. Because of the growth in Virginia's wine industry, arrangements can be made to procure quality grape inputs to be combined with on-site production.

**Agritourism**

Grape producers are also presented with opportunities in agritourism. The idyllic setting of vineyards lends itself to onsite events. Wineries producing their own wine bring visitors and potential customers on-site to make purchases through tasting rooms, and larger events are often organized through wine trails that link several producers to attract larger crowds. While the area may not have a long history of grape and wine production, there are several examples of successful enterprises in the area, particularly those that have incorporated complementary activities such as event marketing, lodging, and tourism activities.

The **Beliveau Estate** has capitalized on their wine production and vineyards by incorporating tourism and special event services to the vineyard. The Estate, located in Montgomery County near Blacksburg, includes a winery, bed & breakfast and lodging in the Maison Beliveau, catering, a wine club, the Lavender Festival, and other on-site activities and events.
Bedford County, VA is a nearby example of a county that has focused economic development activities around wineries with their Bedford Wine Trail.[59] In addition to a central information portal of five county wineries, this project has partnered with local providers of lodging, pottery, gifts, and baked goods to expand the options available as a tourist destination. Yadkin Valley Wine Country's comprehensive wine portal[60], focused on wineries in the Yadkin Valley region of North Carolina, also provides another strong program as an example.

[59] http://bedfordwinetrail.com
[60] www.yadkinvalleywinecountry.com

Working within the framework of the Agritourism strategy outlined previously in this document can provide yet another attraction to bring outside tourists to the area as well as draw out residents within the three-country region interested in local wines.

**Cider, Beer, and Liquor**

Other opportunities in the region include those centered on craft and micro-breweries or micro-distillery operations that cater to those interested in local flavors or non-traditional brews and liquors that are not often commercially available. Micro-distilleries, similar to micro-breweries in size and intent, are becoming more common in the state of Virginia. These business models allow smaller producers to enter into the spirits market by capitalizing on the overall local food trend without large-scale investment in equipment and labor.

While these entities may not impact the production side of agriculture in the region because inputs are often sourced in smaller quantities or from other areas of the state and country, these enterprises can represent a significant draw to a region or area. **Nesselrod Bed and Breakfast** and **Bull and Bones Brewhaus** have operated the **New River Brewfest** in the area since 2010 in an effort to showcase Virginia Brewery's handcrafted beer.[61] The Brewfest has grown to include four separate festivals as of 2014, including the Beer, Cider, & Whiskey Festival, the Wine & Beer Festival, the Wedding & Wine Festival, and the Beer, Cider, and Mead Oktoberfest.

| Chateau Morrisette Winery and Restaurant | Foggy Ridge Cider |
|---|---|
| Located in nearby Floyd County, Virginia, Chateau Morrisette Winery and Restaurant creates Virginia wines and is a part of both the Mountain Road Wine Trail and Virginia's Crooked Road Music Heritage Trail. The winery, in collaboration with other Virginia wineries, hosts the Black Dog Rhythm and Vine Festival, which focuses on bringing together food, artists, and craftsmen as an agri-tourism event. | Located in Dugspur, Virginia, Foggy Ridge Cider is a local cidery that has the unique distinction of being the first in the South East to grow heirloom apples solely for the production of high quality hard cider. Apple production includes several varieties and their on-site cidery processes these apples into eight varietals of hard cider. Foggy Ridge Cider currently sells to different states along the East Coast including Virginia, North Carolina, Maryland, Delaware, Washington, DC, South Carolina, Georgia, Alabama and Tennessee. |
| For more information, visit www.thedogs.com/ | For more information, visit www.foggyridgecider.com |

[61] "About Us." New River Brewfest. www.newriverbrewfest.com.

## Analysis

Simply put, the New River Valley needs more grape production. Local wineries are looking for local grapes, and there is a strong Grape Growers Association that can help producers get started, network, and refine their production techniques.

The Association should continue their efforts at disseminating information at the producer level, and seek to reach out to established organizations that can provide additional knowledge and expertise. These efforts should seek to partner with local education institutions, such as the Giles Technology Center, community colleges in the area, or Virginia Tech to expand basic viticulture education to increase access for producers to information and a more educated workforce.

Education entities should consider the creation of a regional task force or panel to address issues specifically related to information transfer and dissemination or promoting the addition of viticulture education programs. Interested producers should participate in these programs and avail themselves of the information already available from other regions of the state and through Virginia Tech in order to educate themselves and achieve the best chance of success.

The current and predicted future of the green trend in consumer preference to "buy local" will be an important factor in expanding the customer base for Virginia wines. Because of the American consumer's newfound focus on farmers, particularly local ones, this attribute has become a valuable marketing tool.

Working from a regional perspective can offer the best chance of success for individual producers, and also provides the added benefit of attracting outside technical assistance. New River Valley Grape Growers have already begun working on a regional level to attempt to promote grape growing and production on a broader scale. An upcoming meeting scheduled with the Virginia Foundation for Agriculture, Innovation and Rural Sustainability (FAIRS) to explore the option of working together and utilizing the foundations experience and knowledge base in promoting grape and wine production.

As the number of participating producers increases, the critical mass necessary to attract experts and experienced viticulturists will increase, leading to greater resources for the region. In lieu of access to informational resources, continued collaboration and information sharing is the best way to promote the industry as a whole in the tri-county region.

Chris Cook, Executive Director of Virginia FAIRS states,

"We believe strongly in networking with others involved in rural development efforts. Sharing lessons learned from producer issues and economic challenges with other entities, other mentors, and other developers in other regions can help overcome these obstacles. FAIRS typically applies a cluster approach for local development, and we view our direct technical assistance as one aspect of community development. Working with other regional entities that can impact multiple individual producers allows FAIRS to better leverage assistance and spread positive impacts to as many producers and producer organizations as possible. Not only does partnering and collaborating on a regional level foster the transfer of information and best practices, but also makes both individual projects and rural communities more viable."

# EDUCATION

The region has access to several nearby institutions of higher learning, both within the three-county region of Giles, Montgomery, and Pulaski Counties, as well as nearby. These institutions include:

- Virginia Tech University (Blacksburg, VA)
- Radford University (Radford, VA)
- New River Community College (Dublin, VA)
- VA College of Osteopathic Medicine
- Virginia Intermont College (Bristol, VA)
- Virginia Highlands Community College (Abdingdon, VA)
- Wytheville Community College (Wytheville, VA)
- Emory and Henry College (Emory, VA)
- Washington County Adult Skill Center (Abingdon, VA)

Farmers expressed concern about the next generation growing up without an understanding of agricultural realities. There is strong support for the Ag in the Classroom program at the elementary level

for teacher training and resource materials[62], but a sense of a gap at the middle school level, other than those students directly participating in 4-H. High schools have maintained agriculture programs, but the agricultural community sees room for improvement. Several ideas emerged to address these educational needs.

The land lab at Giles County High School offers great potential to provide practical experience in agricultural learning and production, but it is severely underutilized as a teaching locale. Local farmers are willing to donate animals and equipment; it would just require leadership and planning at the school level. This resource could be used for entrepreneurship, extension trials, and on-farm demonstrations.

The high school curriculum in all three counties could be adjusted to create stronger ties with agriculture. While current coursework emphasizes forestry, companion animals, and horticulture, curriculum could also be expanded to include production agriculture education. Agriculture classes could be weighted so that taking those classes didn't hurt students' Grade Point Averages.

The curriculum could also be better integrated with a college prep program, such as having dual enrollment agriculture classes offered that count towards college credit, either at high school or at New River Community College. Although the schools would need teachers with Masters Degrees to do this, it would prevent students from having to choose between preparation for competitive college admissions and agriculture.

The Virginia Department of Education has recently completed a strategic review of Agricultural Education Programs throughout the state.[63] Virginia Tech offers a range of resources and expertise through their Department of Agricultural, Leadership, and Community Education. This includes links to model curricula, networks of Agricultural Educators across the state, sample curricula, and examples of Agricultural STEM programs at the secondary school level.[64]

The Virginia Association of Agricultural Educators provides an opportunity for networking with other teachers and school districts across the state. Within Virginia, the association is divided into five geographic areas, and like its parent organization, the National Association of Agricultural Educators, seeks to offer "professional development opportunities, legislative advocacy, leadership development education, technical inservice and many more services and opportunities[65]."

[62] https://www.agintheclass.org/
[63] http://www.doe.virginia.gov/instruction/career_technical/agriculture/agriculture_education_report.pdf
[64] http://www.alce.vt.edu/signature-programs/index.html
[65] Virginia Association of Agricultural Educators. Accessed at www.alce.vt.edu/vaae/.

The Virginia Western Community College Educational Foundation, Roanoke City Public Schools, and the City of Roanoke have partnered to create Food for Thought, a program whose focus is on "sustainable gardening, green lifestyle choices, the use of urban land for small scale vegetable gardening, and careers in related fields."[66]

The program includes curriculum for use in schools that introduces students to food and its sources, and attempts to strengthen the connection between individuals and agriculture by introducing topics such as local foods, food sustainability, and making healthy food choices to students at a young age. This appears to be an opportunity to solve both the problem expressed by farmers to access a labor pool, as well as provide for a more direct connection that could possibly attract a new generation of farmers and agricultural workers.

The enology and viticulture area also seem to be areas where local educational entities could have a significant impact. Partnering to provide information access through Extension offices, or working to create and offer basic wine workshops and classes could help address the needs of an education labor force that could then be accessed by area wine-grape producers. Offering such educational programs through community or technical colleges could help address this expressed need, and also serve to alleviate the burden from county Extension agents.

These local education entities can teach applicable skills to help create a deeper labor pool for producers, as well as disseminate production information to producers interested in diversifying their crops or seeking to expand their current grape production.

[66] "About Us." Food for Thought: An Edible Education Partnership. www.foodforthoughtva.org.

# COMMUNITY DEVELOPMENT MODELS

In considering the role of the **Agriculture and Tourism Consortium,** and their goals to promote agriculture and its long-term sustainability in the region, the consultants have included examples of regional entities and their work promoting agriculture in their regions to suggest ideas for the Consortium to consider.

Throughout the document, specific examples have focused on certain industries or segments of agriculture in the tri-county area. This section highlights examples of institution level models that may be useful for the Consortium to consider as they attempt to take a broad-based regional approach to developing the region as a whole.

While none of the examples are intended to provide exact models for the Consortium to replicate, they do provide interesting and unique approaches to agricultural development with a whole-community perspective. The Consortium should continue its efforts to tie development as a whole together with agricultural development.

**Gorge Grown Food Network** *www.gorgegrown.com*

According to their website, the mission of Gorge Grown is "To build a resilient and inclusive regional food system that improves the health and well-being of our community."[67] Gorge Grown is a "network" that connects farmers, consumers, and the community. The network reaches five counties in Oregon and Washington and functions as a non-profit resource for farmers, food producers, consumers, policy-makers, educators, health promoters, and food enthusiasts.

Their main goals are focuses on education, demand, supply, and organization. Many of their projects are farmers markets, including one that focuses specifically on increasing the Hispanic community's access to fresh and local foods. They also have a publication titled *Who's Your Farmer*, which is a free directory of small farmers and producers within the five-county region. Another project by Gorge Grown Food Network is the Community Food Assessment, which "takes a big picture look at our food system in all its parts—production, distribution, consumption—so we can learn how it works and how to improve our food and farms." The group has completed the assessment and it is available upon request.

**Intervale Center** *www.intervale.org*

Located in Burlington, Vermont, the Intervale Center is a non-profit organization that focuses on strengthening the community foods system by being a resource to farmers and the community. The Intervale Center has been working to build a food system in their community that fosters food production, processing, distribution, and consumption for over 20 years.

According to their website[68], they are able to fulfill their mission through:

- New Farm incubation
- Farm business development
- Agricultural market development
- Agricultural land stewardship
- Food systems research and consulting
- Celebration of food and farmers

Through their Farms Program, the center is able to lease land, equipment, greenhouses, irrigation, and storage facilities to "small independent farmers." They are also a part of the Vermont New Farmer Project, through which they help beginning farmers with business planning and educating them on additional outside services.

Along with the services and resources the Intervale Center provides to farmers and producers, they also have a virtual food hub that operates year-round. Through the food hub, the center is able to provide the community with high quality, local foods while also bringing a stable market and fair prices to producers.

[67] Gorge Grown Food Network (2014). "About Us." www.gorgegrown.com/about-us.cfm
[68] Intervale Center (2014). "Our Mission and Vision." www.intervale.org/what-we-do/mission-vision/

**The Highland Center** *thehighlandcenter.org*

Located in Highland, Virginia, the overall focus of the center is on cultural and economic development; however, as a component of this, the center utilizes a Local Foods and Agriculture program that includes the following:

- *Community Kitchen*-Provides access to a full-service inspected kitchen for local food entrepreneurs.
- *Allegheny Mountain School*-A six-month intensive training program and twelve-month community outreach program for young adults focused on sustainable food production.
- *Allegheny Meats*-A USDA-inspected slaughter and educational center.
- *Faces of Farmers*-Profiles and stories of the areas farmers and producers.
- *Highland Farmers' Market*-A producer driven market selling Allegheny-grown products. Mountain Foods-A buying club focused on obtaining natural, organic, and local foods.
- *School Garden Project*-A partnership between the Highland Center, the Highland County Public School System and the Virginia Cooperative Extension/4-H to provide and maintain garden space for educational purposes.

## Coordination Opportunities

The tri-county region has numerous existing marketing resources and websites that provide information related to culture, heritage, local foods, and agriculture in the region. In viewing these resources, it appears that greater coordination between sites and programs could be encouraged that would serve to tie together the various programs and sites and provide greater ease of access for consumers interested in visiting the area or local residents interested in further exploring what agricultural and heritage opportunities exist. Information regarding the sites and programs is excerpted from the entities corresponding website.

**Southwest Virginia** *www.myswva.org*

This regional branding initiative provides a well-designed website that collects and collates culture and activities in the area, both tourism and agritourism related. Counties may need to work with such established sites or initiatives to create stronger links back to county websites and local entities.

**'Round the Mountain** *www.myswva.org/rtm*

'Round the Mountain collects information on local artisans, and each county has their own 'Round the Mountain artisan trail/network. The site lists 15 individual trails related to artisan crafts. The 'Round the Mountain site provides links to individual county websites:

- Giles: Giles Art and Adventure Trail (www.gilescounty.org)
- Montgomery: Montgomery County Artisan Trail (www.yesmontgomeryva.org)
- Pulaski: New River Artisan Trail (Pulaski, Radford) Further Link: (www.pulaskichamber.info) or (www.visitradford.com)

This represents an opportunity to build on existing internet traffic and capture individuals browsing the site for tourism and other opportunities that can be more closely tied with agriculture in the region.

**Mountain Road Wine Experience** *www.mountainroadwineexperience.com*

According to their website, The Mountain Road Wine Experience offers "[a]n eclectic adventure with truly exceptional wine, cider, and mead in Virginia's Blue Ridge Mountains." The Experience includes seven businesses including wineries, a cidery, and a meadery, along the Blue Ridge Parkway. Each location features a tasting room so tourists and locals can experience locally produced items on-site. These businesses are:

- Foggy Ridge Cider
- Chateau Morrisette
- Amrhein Wine Cellars
- Stanburn Vineyard
- Attimo Winery
- Blacksnake Meadery
- Villa Appalaccia Winery

Throughout the year, special events are held that feature additional unique offerings at each location. For example, one year, the wineries, cidery, and meadery featured picnic themed food pairings with their beverages for visitors to try. Another event included each business hosting a local artist or artisan, such as jewelry makers and musicians. Visitors are required to purchase tickets for these special events, but one ticket allows access to all seven locations.

Located in Montgomery County, Attimo Winery is the only business part of the Mountain Road Wine Experience that is located in the New River area. Others are located in neighboring counties, including Floyd, Carroll, and Roanoke counties. Other wineries should be encouraged to join such networks, particularly since the greater the number of participants on a site, the more likely it will be to attract internet traffic.

**Southwest Virginia Fresh** *www.swvafresh.org*

Southwest Virginia is an independent community organization that focuses on developing the community of Southwest Virginia's local foods. Their mission is "to enhance a local foods economy in Southwest Virginia." It is Southwest Virginia Fresh's, also known as SO Fresh for short, goal to become "initiator and comprehensive 'point of contact' for all Southwest Virginia local foods efforts and information, thereby enhancing a region of connected and thriving community-based foods."

Southwest Virginia Fresh has a website that details their overall organization. This organization does not actually sell and distribute food, but rather they serve the purpose of being a resource for farmers and the community. They offer different services, including networking, education & resources, promotion, and collaborations. For the networking, they focus on matching the buyers with the farmers and producers. In terms of the education & resources, they offer a variety of resourced and workshops for both consumers and producers. Southwest Fresh offers promotion to help farmers

and small businesses get their names out and become a known aspect of the community. They also work primarily on collaborations in order to bring together buyers, farmers, and consumers.

On their website, there is also a page dedicated to their producers. They describe that they have over 25 local foods producers, and they are continuing to grow. For each of the individual producers listed, there is information about when the producers' products are available throughout the year. There is also information pertaining to where the products can be found outside of Southwest Virginia's website, like local farmers markets. Additionally, their website has a page that has information for local Southwest Virginia residents to become producers.

## Barriers to Growth and Diversification

Other counties in Virginia, such as Halifax County, have faced opposition to agricultural development through some segments of the population. This has resulted in some regulatory constraints placed in these counties' ordinances. Although, at this time there seem to be no specific issues, interviews with farmers, staff, and the public, a few concerns surfaced which merit future attention:

**Agricultural Zoning**

There is no specific agricultural zoning category distinct from rural residential. Farms may have unique needs for accessory buildings, farm worker housing, advertising, public parking and facilities. Nonetheless, through interviews, the authors heard no specific complaints about any land use regulations or local ordinances hindering the development of new enterprises.

**Regulatory Complexity**

Citizens interested in developing new agricultural enterprises (especially value-added and agritourism related ventures) must negotiate a maze of regulatory and permitting issues. To facilitate the process, the county could consider designating an agricultural liaison to provide guidance on procedures and timeframes for creating new farm-related enterprises.

**Food Safety**

Safety certification is becoming more important in all areas of agricultural production. The rise of popularity of locally produced foods, along with numerous food safety scares, has made food safety of paramount importance to producers as well as buyers and consumers. Over time, policies such as Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP) have become more and more important to the food industry, beginning with growers providing large scale quantities of commercially grown produce and working its way to smaller and smaller producers. Many foodservice companies work with suppliers to meet company mandated food safety and quality certification standards that are often more stringent than government mandated standards. These "third party certifications" vary by company and region. While not necessarily a requirement, safety certifications can pose an obstacle, especially for smaller producers who wish to access larger institutional purchasers, but who are unable to bear the expense associated with auditing and certification to meet the requirements of these types of customers.

# MARKET OPPORTUNITIES & POTENTIAL PARTNERSHIPS

### Local Foods, Local Places

This new program is designed to provide direct technical support to selected communities (with particular consideration for those in Appalachia and the Delta region) to help them develop and implement action plans promoting local food and downtown revitalization. Special consideration is given to communities in the early stages of developing or restoring local food enterprises and creating economically vibrant communities. Selected communities in Appalachia and the Delta region will be eligible to receive financial assistance to help them implement those plans.

### Governor's Agriculture & Forestry Industries Development Fund (AFID)

This funding program awards grants to eligible applicants who are looking create or expand a facility used to add value to Virginia grown agriculture or forestry items. The grant awards a maximum amount of $250,000, or 25 percent of qualified capital investment. The funding program does stipulate that at least 30 percent of the agricultural or forestry product used to make an end value-added product must come from Virginia.

### NRV Development Corporation Revolving Loan Fund

The New River Valley Revolving Loan fund is managed by the New River Valley Development Corporation, which was formed as a non-profit organization by several counties and towns

located in the New River Valley region of Virginia with the goal of helping to grow business and jobs by providing business assistance. According to the Corporations website, the loan can be used "to finance expansions, capital purchases, or startup costs." Loans are typically in the $10,000- $25,000 range, and are provided with low interest rates to businesses that might not otherwise be able to secure funding. Businesses wishing to apply must complete a pre-application screening and a formal application process.

### Virginia Foundation for Agriculture, Innovation, and Rural Sustainability (VA FAIRS)

According to their website, VA FAIRS is "a not for profit foundation based in Richmond, Virginia, with the mission of assisting rural agricultural enterprises." The Foundation offers technical and cooperative assistance that involves strategic planning, feasibility analysis, workshops and training, finance assistance, and assists with the creation of business documents in order to help producers and communities in "developing and advancing their agricultural, economic and social interests to enhance their quality of life."

### Virginia Tech and Virginia State University Cooperative Extension[69]

The Virginia Cooperative Extension helps to link the resources of Virginia Tech and Virginia State University to individuals within the state. Working through collaborations between the Universities and other organizations, the Cooperative Extension program provides services through "107 county and city offices, 11 agricultural research and Extension centers, and six 4-H educational centers."

### Community Food Projects Competitive Grants Program (CFPCGP)

Community Food Projects are designed to meet the food needs of low-income people, increase the self-reliance of communities in providing for their own food needs, promote comprehensive responses to local food, farm, and nutrition issues, meet specific state, local, or neighborhood food and agriculture needs for infrastructure improvement and development, planning for long-term solutions, the creation of innovative marketing activities that mutually benefit agricultural producers and low-income consumers.

### Federal State Marketing Improvement Program Funds (FSMIP)

The program provides matching funds to State Departments of Agriculture, State agricultural experiment stations, and other appropriate State agencies to assist in exploring: new market opportunities for U.S. food and agricultural products, research and innovation aimed at improving the efficiency and performance of the marketing system, and address barriers, challenges, and opportunities in marketing, transporting, and distributing U.S. food and agricultural products domestically and internationally.

[69] www.ext.vt.edu/about/index.html

## Farmers' Marketing and Local Food Promotion Program (FMLFPP)

The program is comprised of two competitive grant programs:

**Farmers' Market Promotion Program (FMPP)**
The program assists eligible entities in promoting the domestic consumption of agricultural commodities by expanding direct producer-to-consumer marketing opportunities. Additionally, all projects should support agricultural marketing enterprises where farmers or vendors sell their own products directly to consumers.

**Local Food Promotion Program (LFPP)**
LFPP offers grant funds with a 25 percent match to support the development and expansion of local and regional food business enterprises to increase domestic consumption of, and access to, locally and regionally produced agricultural products, and to develop new market opportunities for farm and ranch operations serving local markets.

## Specialty Crop Block Grant (SCBG)

The program is solely designed to enhance the competitiveness of specialty crops, defined as "fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)." Eligible plants must be intensively cultivated and used by people for food, medicinal purposes, and/or aesthetic gratification to be considered specialty crops.

The program seeks to increase child and adult nutrition knowledge and consumption of specialty crops, improve efficiency and reduce cost of distribution systems, assist all entities in the specialty crop distribution chain in developing "Good Agricultural Practices," "Good Handling Practices," "Good Manufacturing Practices," and in cost-share arrangements for funding audits of such systems for small farmers, packers and processors, as well as other objectives.

## Rural Energy for America Program (REAP)

This program provides agricultural producers and rural businesses with loan and grant options to help fund their eligible bio-energy projects. The program is made up of three areas: The Renewable Energy System and Energy Efficiency Improvement Loan and Grant Program, The Energy Audit and Renewable Energy Development Assistance Grant Program, and The Feasibility Studies Grant Program. This program is open to applicants in an eligible rural area, which is defined by the USDA as an area outside of cities with a population of 50,000 or more.

## Bio-Refinery Assistance Program

This assistance program is administered through the USDA's Rural Development program and provides loans to those looking to develop, construct, and retrofit commercial-scale bio-refineries. They also help provide grants to help pay for the development and construction costs of demonstration-scale bio-refineries.

## Community Facilities Program

Community Facilities Programs provide loans, grants, and loan guarantees for essential community facilities in rural areas and towns of up to 20,000 in population. Loans and guarantees are available to public entities, such as municipalities, counties, parishes, boroughs,

and special-purpose districts, as well as to non-profit corporations and tribal governments. Priority is given to health care, education and public safety projects.

Typical projects are hospitals, health clinics, schools, fire houses, community centers and many other community based initiatives. Grants are authorized on a graduated scale. Applicants located in small communities with low populations and low incomes will receive a higher percentage of grants.

### Business and Industry Guarantee Loan Program

The purpose of the B&I Guaranteed Loan Program is to improve, develop, or finance business, industry, and employment and improve the economic and environmental climate in rural communities. This purpose is achieved by bolstering the existing private credit structure through the guarantee of quality loans, which will provide lasting community benefits. It is not intended that the guarantee authority will be used for marginal or substandard loans or for relief of lenders having such loans.

### Value-Added Producer Grant Program (VAPG)

The program is designed to assist producers and associations that engage in value-added activities to develop strategies and create marketing opportunities for their value-added agriculture products, and/or for marketing or processing activities that add value to the commodities they raise, or for on-farm renewable energy generation projects. The goal of the program is to expand market opportunities for producers and increase the producer's share of revenue from their commodities.

### Rural Micro-entrepreneur Assistance Program (RMAP)

The RMAP program aims to support the development and ongoing success of rural micro-entrepreneurs and microenterprises. Direct loans and grants are made to select Microenterprise Development Organizations (MDOs) for the benefit of rural micro-entrepreneurs and micro-enterprises. RMAP funding may be used to provide fixed interest rate microloans or to provide eligible MDOs with micro-lender technical assistance grants to provide technical assistance and training to micro-entrepreneurs that have received or are seeking a microloan under RMAP.

Individual citizens, micro-entrepreneurs, or micro-enterprises, as defined by the program and who are in need of business based technical assistance and training, are generally eligible to apply for loans from MDOs, provided they owe no delinquent debt to the Federal Government.

### Rural Economic Development Loan and Grant (REDLG)

The REDLG program provides funding to rural projects through local utility organizations. Under the REDLG program, the USDA provides zero interest loans to local utilities, which they, in turn, pass through to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas. The ultimate recipients repay the lending utility directly. The utility is responsible for repayment to the Agency.

### Farm Ownership Loans

Farm Ownership Loans are issued through the USDA Farm Service Agency and is specifically intended to help improve a farm overall. It can be used for purchasing farmland, constructing or

repairing buildings, and to promote water and soil conservation. The current maximum amount this loan will pay out is $300,000.

### Farm Operating Loans

This loan is also offered through the USDA Farm Service Agency. It is meant to help improve the operations of a farm; it can be used to purchase livestock, farm equipment, feed, seed, fuel, farm chemicals, insurance, and other operating expenses. This loan can also be used to pay for minor improvements to buildings, land and water development, family subsistence, and to refinance debts. This loan's current maximum amount is $300,000.

### Ford Foundation

Each year the Ford Foundation receives about 40,000 proposals and makes about 1,400 grants. Requests range from a few thousand to millions of dollars and are accepted in categories such as project planning and support, general support, and endowments. Types of grants include general/core support, project, planning, competition, matching, recoverable, individual, endowment, and foundation-administered project.

### Sustainable Agriculture Research & Education (SARE)

SARE covers numerous aspects related to research and education in agriculturally related fields. Since 1988, the SARE grants and education program has advanced agricultural innovation that promotes profitability, stewardship of the land, air and water, and quality of life for farmers, ranchers and their communities. SARE grants fund research and education projects exploring areas such as:

- On-farm renewable energy
- Pest and weed management
- Pastured livestock & rotational grazing
- No-till and conservation tillage
- Nutrient management
- Agro-forestry
- Marketing
- Sustainable communities
- Systems research
- Crop and livestock diversity
- and others

Since 1988, SARE has funded more than 5,000 projects with grants for farmers, ranchers, extension agents and educators, researchers, nonprofits, students, communities and others.

### Virginia Wine Board

In recent years, the Virginia Wine Board has issued RFP's for research projects, and during 2012-2013 funded 14 projects related to grape growing and win making. Personnel at the VWB should be consulted to see if any specific funding can be arranged or is already available to help address information within the tri-county region that can help current and future grape and wine producers.

## Other Notable Programs

The Healthy Food in Health Care program harnesses the purchasing power and expertise of the health care sector to advance the development of a sustainable food system. Through advocacy and education, the program seeks to motivate facilities to implement programs that explicitly connect all aspects of the food system with health.

USDA's WIC Farmers' Market Nutrition Program & Senior Farmers' Market Nutrition Program
The WIC Farmers' Market Nutrition Program (FMNP) is associated with the Special Supplemental Nutrition Program for Women, Infants and Children, popularly known as WIC. The WIC Program provides supplemental foods, health care referrals, and nutrition education at no cost to low-income pregnant, breastfeeding, and non-breastfeeding post-partum women, as well as to infants and children up to five years of age, who are found to be at nutritional risk.

The WIC FMNP was established by Congress in 1992, to provide fresh, unprepared, locally grown fruits and vegetables to WIC participants and to expand the awareness, use of, and sales at farmers' markets. Individuals that have been certified to receive WIC program benefits or who are on a waiting list for WIC certification are eligible to participate. A variety of fresh, nutritious, unprepared, locally grown fruits, vegetables and herbs may be purchased with FMNP coupons.

The Senior Farmers' Market Nutrition Program (SFMNP) awards grants to States, U.S. Territories, and federally recognized Indian tribal governments to provide low-income seniors with coupons that can be exchanged for eligible foods (fruits, vegetables, honey, and fresh-cut herbs) at farmers' markets, roadside stands, and community-supported agriculture programs. The SFMNP is administered by State agencies such as your State Department of Agriculture or Agency on Aging.

# RECOMMENDATIONS & CONCLUSIONS

The following recommendations are intended as a guide, and are organized by category, with suggested partners and priority levels representing the timeframe within which the task could be completed.

**Collaborating Organization Key**
The primary parties responsible for the activities covered in the recommendation section are presented below. The anticipated lead partner for each activity has been **bolded** for emphasis. The recommendations will likely need to include the involvement of other entities not listed here to be successfully implemented.

- Agriculture and Tourism Consortium (ATC)
- Virginia Cooperative Extension (VCE)
- Virginia Department of Forestry (VDF)
- _____
- _____
-

Should additional entities be established subsequent to the consideration of this strategic plan, those entities should be considered for inclusion in the implementation of activities as well.
**Priority Ratings**

Please complete the following priority exercise. Priority ratings are based on the timeframe in which a recommendation could be completed. Please review each recommendation and add a short term (1), mid-term (2), or long-term (3) rating in the left-hand column. The timeframes are further described below:

1. Can be accomplished within the next 18 months. Significant partners ready to collaborate or infrastructure already available, either internally or on a regional basis.
2. Can be achieved within 2-3 years. Requires a longer time frame, organizational commitment on a broader scale, and the possibility of outside funding.
3. Long-term goal over the next 4-5 years. Requires significant relationship-building, development of grassroots support, outside funding, and possibly additional infrastructure.

**Partner**
Please indicate potential partners for each recommendation in the right-hand column.

| Priority | Recommendation | Partner |
|---|---|---|
| | | |
| **Agriculture and Tourism Consortium** | | |
| *The following recommendations are directed toward the Agriculture and Tourism Consortium. These are areas in which the Consortium can specifically focus to help improve its effectiveness and impact in the region.* | | |
| **A. Structure & Continuity** | | |
| | **Clarify the mission and role of the committee and formally organize**. Having functioned to date as an ad hoc committee, the group could organize formally and delineate responsibility among its members through established roles and positions. Although this committee cannot drive agricultural development, it could facilitate it taking place, as needs are identified by the farming community. | |
| | **Separate committee work from county level work.** Each member of the committee currently has responsibility within their respective counties, but the work and efforts of the committee should be clearly separated from the individual job duties of its members. This will prevent "mission creep" for the committee, and allow it to better focus on regional cooperation and development activities. | |
| | **Focus on communication and coordination, and have periodic progress checks**. Collect and disseminate information relevant to the mission of the committee, as well as coordinate between individual entities and organizations within the three counties represented by the committee members. Review specific goals and tasks, using a scorecard to assess progress annually. | |
| | **Determine resources to move into implementation phase.** What do you want to do once these grants are finished? How will you pay for it? | |

| B. Networking & Communication | | |
|---|---|---|
| | **Facilitate a regular monthly agriculture meeting in each county.** This informal meeting can provide a venue to share information, highlight innovative programs, share best practices, and generally foster closer communication and collaboration between the area's agriculture entities. For examples, see *Friends of Agriculture Breakfasts* in Polk and Buncombe Counties (NC). | |
| | **Use LISTSERV's (electronic mailing lists) to better share information.** A model for this type of networking is the Chatham NC Growing Small Farms program. Email lists can be established on a variety of topics and individual farmers or entities can subscribe to receive information updates based on specific topics. | |
| | **Create a unified information portal for consumers.** Some of these resources exist online through various websites, but they seem to be fragmented rather than comprehensive. The focus should be on providing streamlined ease of access to such resources. This may be accomplished by better coordinating or linking existing sources of information to allow consumers to find local food and agri-tourism opportunities, as well as plan for trips and activities utilizing local heritage resources. | |
| | **Create a farmer advisory subcommittee.** This group would focus on identifying needs and drive implementation by the agricultural community. | |
| | **Reach out to other economic sectors.** Continue to reach out to additional partners to gather their views and educate them about needs, opportunities, and unique assets. For example, the committee as established has no educators or community health workers. | |
| | **Establish a committee calendar separate from an agricultural activities calendar.** This will provide a central resource for the committee in planning meetings and other activities that are more focused on the committee's mission rather than overlapping with activities in each of the counties. | |
| | **Increase coordination of regional marketing and information sites.** While some coordination exists on sites such as Southwest Virginia Fresh, 'Round the Mountain, and Heartwood, stronger ties could be created to connect these and drive awareness within Giles, Pulaski, and Montgomery Counties specifically. | |
| | **Establish informational links with Floyd County.** Floyd County is naturally part of the New River Valley region, and the county has solid agricultural resources and initiatives that could help the efforts in the tri-county region. While the county declined to participate in the formation of this strategic plan, efforts should be made to establish a flow of information. | |
| | **Develop user-friendly access and outreach plan for NRVPDC agriculture resource and local foods planning/mapping project**. This should become the go-to info source for local farm assets | |

| C. Farmer Advisory Subcommittee | | |
|---|---|---|
| *These are recommended tasks should an advisory group be created by the Consortium.* | | |
| | **Form a three-county Agriculture Development Board (ADB)**. A regional, agriculture-oriented body could serve to drive economic development, address regulatory issues, and implement new ideas while working with existing bodies such as Farm Bureau and Cooperative Extension. Use the information highlighted in this report to develop a work plan and strategic approach to agricultural entrepreneurship. | |
| | **Utilize statewide knowledge and information sharing.** Learn which counties are already doing agricultural economic development well and learn from their experience. The tri-county leadership should strongly consider placing an individual in the membership of VADO, the Virginia Agricultural Development Officers organization, to gain access to the experience and information represented by its members. | |
| | **Identify opportunities and needs for beginning farmers.** With the average age of 57 for local farmers, creating a new generation of farmers is crucial to the long-term survival of agriculture. | |
| | **Keep a current inventory of agricultural supply providers.** Owners of these businesses should be included in agricultural leadership roles, as they can see trends among a changing customer base, and their survival is crucial to farms' profitability. | |
| | **Develop a farmer recruiting program.** The crucial role of traditional economic development agencies to make new businesses feel welcome needs to be extended to the agricultural sector so any potential opportunities are not missed. | |
| | **Find ways to better utilize local educational resources.** In particular, Virginia Tech's College Farm (Kentland Farm) can be utilized so that local farmers have better opportunities to interact with the public. | |
| | **Encourage farmers to purchase farm supplies locally.** Increase the dialogue amongst farm supply businesses and farmers. By understanding the changing needs of the agricultural sector, these businesses can be more responsive to local needs. Buying local begins at the input level. | |
| | **Serve locally grown food at all farmer events.** It may be more expensive and convenient, but essential for local farm identity and a commitment to keeping dollars within the agricultural community. | |

| Priority | Recommendation | Partner |
|---|---|---|
| | | |
| **Agricultural Community** | | |
| *The following recommendations are focused on the agricultural community and are aimed to help improve the industry for all parties involved. These recommendations can be applied to all realms of agriculture across the industry.* | | |
| | **Identify and expand education and training opportunities.** Multiple groups could benefit from increased educational opportunities including: professional service providers, new landowners, producers/farmers, and youth. | |
| | **Strengthen communication.** Communications should be strengthened across the board, specifically with state and federal legislators. Industry and university knowledge should also be better communicated to the agricultural community. | |
| | **Promote the industry.** Promotion of local farms as an important part of the community, as well as the promotion of agricultural and forestall districts. It is an easy, low-cost way to highlight local farms and agricultural communities. | |
| | **Work together.** Counties need each other for critical mass and infrastructure; farmers need each other for marketing, and local businesses need support. The Montgomery County Chamber of Commerce has expressed interest in creating linkages between farms and local businesses. Collaborating with agritourism organizations around the region will also allow for new and innovative ideas, attending workshops, and gathering information from existing newsletters. Collaboration efforts with the NRV Grape Growers Association should be continued and their efforts should be supported and encouraged. | |
| | **Create a proper legislative framework for agricultural development.** This should include review and recommendations of potential ordinances at the county level. Possibilities may include:<br>o Polling farmers for any specific issues that need changing.<br>o Examining local zoning and regulations to identify potential barriers to new agricultural and agritourism enterprises.<br>o Crafting local ordinances directly stating support for forestry and agricultural practices allowable under VA state law. Ensure agriculture is protected with water and zoning regulations.<br>o Coordinating local food initiatives with local health codes. | |

| | | |
|---|---|---|
| **A. Virginia Cooperative Extension** | | |
| *These recommendations focus on strengthening the agricultural community through extension programs.* | | |
| | **Develop a stronger institutional relationship with Virginia Tech.** Having the Land Grant University located locally is a huge potential asset. Encourage more collaboration involving on-farm research, demonstration projects and field days, and student labor on local farms. | |
| | **Strengthen ties with existing Virginia Tech personnel and programs.** Create a wish-list of potential research areas or projects for faculty and students. Focus on expanding on-farm research targeting local farm needs. Utilize students and farmers for project labor. | |
| | **Create a resource reference list.** Establish a reference list of service and technical assistance providers and make them available for farmers or local food entrepreneurs. Resources at Virginia Tech should be assembled and presented in a way that makes it easier for farmers and potential farmers to access. | |
| | **Increase awareness of farm transition options.** Foster connections between new and old landowners, including education programs designed to inform about farm transition options. Through the Farm Link Program, VDACS and the Virginia Farm Bureau offer a strong slate of services and resources for both landowners and farm seekers. | |
| **B. Environment & Land Base** | | |
| | **Provide introductory services to new landowners.** Many newcomers to agriculture and rural land management are seeking ideas for farm viability and the technical assistance and cost-share programs to manage their land profitably as good stewards of natural resources. | |
| | **Convene a land conservation summit led by Conservation District and Natural Resource Conservation Service. Educate landowners about key programs, services, and approaching deadlines.** With concerns about storm water regulations and increasing pressures on land management practices associated with the Chesapeake Bay rules, landowners need to establish a long-term strategy and avoid the constraints of future regulations. | |
| | **Maintain priority on funding and utilization of cost-share programs and best management practices**. The current 100% cost-share for livestock exclusion applications submitted by June 2015 is a great opportunity to improve grazing infrastructure on the farm. Afterwards, livestock exclusion might become mandatory, with no cost-share. | |
| | **Create more incentives for landowners to keep their land in agricultural use.** Including tax incentives, subsidized professional advisory services, or local purchase of development rights programs. This will create a central point to share information about the loss of important ag. lands and connect to a statewide network of counties experienced at using population growth to the benefit of farmers. | |

| C. Core Agriculture Activities | | |
|---|---|---|
| | **Cattle** | |
| | **Create "Technical Advisor" teams to assist with Whole Farm Planning**. These groups could serve as a resource for area producers, and could also focus on the coordination of resources, discuss long term improvements, programs, and assist with written plans. | |
| | **Establish a grazing working group for dairy and beef.** Collect and share information on rotational grazing, paddock design, lanes and waterers, and site-specific year-round forage rotations. Establish a regular schedule of pasture walks and on-farm research projects. | |
| | **Keep the emphasis on the beef and dairy industries.** This will continue to be, the heart and soul of New River Valley agriculture. | |
| | **Beef** | |
| | **Begin collaborative beef marketing.** Beef producers should consider expanding into backgrounding and keeping calves for an additional 45 days post-weaning. This will allow higher value sales thru tele-auction and truck loads sales. | |
| | **Seek methods of beef facility improvement.** Search for funding to create a cost-share program similar to the Southwest Virginia Beef Builder Initiative. Because the three counties are not part of the tobacco settlement, leadership will need to identify an alternative funding source. | |
| | **Improve processing capacity and logistics**. Work with existing facilities to specify needs and seek improvements. Because there does not appear to be enough volume for a new processing facility in the region without some sort of large ongoing public funding source, improving access and existing capacity will need to be utilized to provide opportunities for producers. | |
| | **Timber/ Forestry** | |
| | **Encourage landowner consultation with government or private forestry services.** Educate landowners on the value of advice and education prior to large-scale clear-cutting or other significant changes to the timber landscape of individual properties to alleviate the crisis management that can result from these changes if done incorrectly. | |
| | **Incentivize Forest Management and Pre-Harvest Plans for landowners.** The tri-county area should investigate if these plans would be cost-effective in the region. Depending on the findings, leadership should seek to enact any new requirements for forest management plans across all three counties in a consistent manner. | |
| | **Encourage loggers to complete Sharp Loggers Certification.** This course minimizes environmental disturbance from logging and activities and creates a high professional standard for the entire industry. | |
| | **Encourage value-added processes that create economic opportunities.** A creative artisan class could work with local timber companies to indentify high value species and explore bringing tourism benefits. | |
| | **Explore the development of a local biomass utilization facility.** Observing how other regions have encouraged the growth of this industry may lead to opportunities within the tri-county region. | |

| | | |
|---|---|---|
| **D. Local Foods/ Value-Added** | | |
| | **Help farmers identify unmet consumer needs.** Conduct off-season meetings to share the results of the Community Food Project surveys. Focus on key items that are always in short supply and provide technical growing information to encourage increased production. | |
| | **Integrate supply and demand among food entrepreneurs.** Develop a forum for discussion between local farmers and chefs, caterers, and stores. This can include area wineries, and beef entities. Local grains could be grown and sold for the specific needs of local breweries, and farmers could use the spent grains as a livestock feed. Joint promotional efforts will also serve to bring additional attention to tourism amenities and attract new spending within the region. | |
| | **Develop a pilot project for "scaling up" to provide more produce for institutional customers.** Do some joint production planning for 2-3 items that multiple farms can grow to produce the critical mass needed to begin supplying local schools, hospitals, or hospitality providers. | |
| | **Support expanded urban agriculture opportunities.** Community gardening offers a wonderful venue for fresh food, entrepreneurial training, and brightening up neighborhoods. The Prices Fork Development presents an immediate opportunity to create a substantial community gardening component. | |
| | **Encourage the establishment of Community Supported Agriculture.** These cooperative projects can help provide a base of supply and demand that can lead to other growth opportunities. | |
| | **Create a food value-added center/shared use kitchen**. This will help with the promotion of food-based entrepreneurship and increase awareness of local production. | |
| | **Promote cluster development around greenhouse vegetables**. The scale of the newly implemented Red Sun Farms facility offers enormous opportunities for spin-off activities and enterprises. | |
| **E. Agritourism** | | |
| | **Support the expansion of agritourism opportunities.** This dynamic aspect of the current agricultural development landscape shows innovation and entrepreneurial energy. Room for growth exists in creating linkages and partnerships with other businesses in the region, and agritourism activities can significantly affect economic growth. | |
| | **Develop an agritourism center along I-81**. Make it a clearinghouse of information amongst farmers and agency personnel, and a "one-stop" source of information for tourists. A possible center could also include a local agricultural history museum. | |
| | **Transform tourists into agritourists.** Expand the traditional definition of agritourism to include existing tourism activities and add agriculture components when possible. | |

| | | |
|---|---|---|
| | **Include more agritourism opportunities on related websites and on-line directories.** Focus on coordinating future brochures and publicity efforts. This could also include regional coordination with neighboring counties to include more integrated agritourism possibilities that could attract larger crowds. | |
| | **Create a central calendar**. This calendar could coordinate tourism related events to avoid conflicts and dilution of potential attendees, as well as partnerships between farms and other local businesses (inns, crafts, restaurants) for joint promotional efforts. | |
| | **Increase the focus of tourism on local heritage and outdoor recreation.** There are several historical and heritage based advantages that could be further utilized by the tri-county area. Hikers, boaters, and campers are all part of a growth sector in the county; these tend to be consumers with above-average income and a heightened appreciation of buying locally. | |
| | **Assess agritourism opportunities and "next steps."**<br>o Conduct interest meetings for producers and interested individuals in local tourism businesses to determine the needs of both consumers and producers. This may entail regional meetings or a basic survey to assess tastes and preferences.<br>o Assess the need for tourism related infrastructure that will lead to increased visits and economic impact.<br>o Assess current and future promotional materials and marketing outlets that can be developed to increase agritourism activities.<br>o Identify specific groups that might like local farms and work with leadership to organize events. (bicycle-to-farm, horse trail riders, birdwatchers, foodies, etc.) | |
| **F. Wine, Beer, & Cider** | | |
| | **Encourage wine grape production.** Demand outstrips supply Practices that encourage more production would increase a high value crop with many agritourism linkages. | |
| | **Coordinate existing producers with agritourism opportunities.** Given the success of other regions in utilizing grape production and wineries to attract tourists and consumer spending, any opportunity to link local producers with such opportunities should be explored. | |
| **G. Education & Next Generation** | | |
| | **Further support and promote the 4-H and FFA programs.** Financial and technical assistance are a worthy investment in the next generation of farmers and a stronger urban understanding of rural communities. Youth activities of all kinds are crucial to cultivate that next generation of farmers, with particular focus on middle schools. | |
| | **Expand internship and placement programs**. Programs such as these can help to expand entrepreneurial capacity and long term industry growth, as well as supplement labor shortages. Foster the next generation of farmers. Utilize apprenticeships, youth agriculture leadership programs and organizations. Farmers need assistance negotiating liability and legal concerns. | |

| | | |
|---|---|---|
| | **Work with education linkage programs such as Virginia Tech's *VT Engage*.** Promote the placement of students in volunteer opportunities within the farming community. This type of collaboration should include diverse agricultural sectors, including horticulture, beef, dairy, and others. | |

| Category | Recommendation | Partner |
|---|---|---|
| | | |
| **County Specific** | | |
| *Because many of the recommendations are applicable to each of the three counties that are the subject of this plan, the following county-specific recommendations cover only those that are unique to each county.* | | |
| **Giles** | | |
| | **Highlight the Land Lab at Giles County High School**. This program provides huge potential for connecting current and aspiring farmers. The advisory team should work with school leadership to develop a short and long-term plan for the continued growth of this program. | |
| | **Become the small ruminant center for the region**. Giles is already drawing in customers from far away to the Giles Farm Bureau Cooperative Store. Add additional resources such as educational programming and networking to promote Giles County as a resource for the region. | |
| | **Create agriculture and forestal district program**. Mapping of agricultural and forestal districts could be used to raise public awareness of the existence of the local agricultural community. | |
| **Montgomery** | | |
| | **Establish a local farm tour.** Setting up a weekend open-house type tour, similar to Carolina Farm Stewardship Association tours. These tours can help showcase local farms producing food for local consumers. | |
| | **Highlight and clearly identify locally grown food.** This should include some sort of branding initiative similar to other regions and state programs. Instituting this type of activity will help counteract the negative aspects of reseller markets. | |
| | **Support Prices Fork Elementary School redevelopment project**. The possibilities for redevelopment of this facility have included discussion of community gardens, food incubator, or value-added components. | |
| | **Increase community involvement in local and value-added food activities.** Leadership should seek to expand community gardens, work on cooking and canning skills, classes and workshops. Virginia Fresh Food Loan Fund is soliciting applications from the NRV area that could cover this and the previous recommendation.[70] | |
| | **Work with chamber of commerce to develop partnerships between local businesses,** including partnerships among hotels, and restaurants, or collaboration to create gift packages. The Chamber is looking for local farms to produce crafts and Christmas trees. | |

[70] www.vacommunitycapital.org/uploads/VFFLFproduct.pdf

| | | |
|---|---|---|
| | **Revisit the farmers' market ordinance**. Participating farmers don't seem satisfied. Research and observe the best publicly run farmers' markets in Virginia, and seek to learn lessons and best practices to enhance the success of markets in Montgomery County. | |
| | **Examine the storm water ordinance**. Leadership should examine and clarify how this ordinance will impact agricultural producers. | |
| **Pulaski** | | |
| | **Become the greenhouse vegetable capital of the East Coast**. Develop an internship and apprentice program. Work with Red Sun to find what purchased inputs could be produced locally. | |
| | **Create agriculture and forestal district program**. Mapping agricultural and forestal districts can be used to raise public awareness of the existence of the local agricultural community. | |

# APPENDIX

## Appendix A: Is Your Community Farm-Friendly?

- Practical land use policies (from good info in Planning for an Ag Future)
    - Provide details in comprehensive plan
    - Separate plan for areas important to agricultural uses
    - Define and allow agricultural uses
    - Require buffer zones between agriculture and residential use zones
    - Make use of open space created by innovative residential zones
    - Acknowledge the changing nature of agriculture
- Reasonable Local Regulation (from Planning for an Ag Future)
    - Allow direct marketing such as roadside stands and PYO by right
    - Allow support businesses and value-added businesses to exist
    - Allow energy production systems to mitigate energy costs
    - Focus local ordinances on production agriculture not specific activities, equipment or structures.
    - Define home occupations or small businesses that are compatible with agricultural areas.
    - Allow simpler design standards for seasonal agricultural ventures.
    - Allow flexibility to accommodate the unusual needs of on premise production.
    - Allow temporary off-site signs to attract customers to seasonal agricultural activities.
- Promote and encourage stewardship principles (from Planning for an Ag Future)
- To encourage growth and development of agriculture, there needs to be a secure base of agriculture and a farm friendly regulatory environment.

## Appendix B: Tri -County Vision Sessions with Local Agriculture Producers

Virginia Cooperative Extension recently conducted a Tri-County Vision Sessions were conducted with local producers and extension agents that covered agriculture and agritourism related resources and marketing ideas for each of the three counties. The main points from these meeting are provided below and serve as a reference in conjunction with the Agritourism section of this strategic plan. Many of the strategies outlined in the Agritourism section can be easily combined with the information gathered below to formulate a plan for implementation.

**Report 1A: Giles County Producers and Extension Agents**

**Giles County:**

- Connect public with agriculture
- Coordinate to make consistent supply for commercial use/sale → value added pricing → working together to get premium
- Focus on agribusiness
- Standards of quality
- Coop to make value added possible
- Bring more money into county
- Executive advice to market/manage/coordinate producers, and their products (i.e. who raises what, etc.)
- Calendar of events
- Marketing of what we have
- Non-producer member to coordinate producers
- Benefit to the greatest extent (as many producers as possible)
- Branding of the region → visual identification for the county
- Expand agribusiness → forestry
- Play off the "local" interest mindset

**Name Suggestions:**

- New River Valley and Agriculture Business
- Local
- Fresh
- Grown
- New River Bounty
- Agriculture
- Sustainability
- Harvest (ed)

**Agritourism Definition:**

- "More to See and Do"
- Education
- 2 Categories:
    - Bringing in people that spend money
    - Brining in people that spend time in Giles
- Package deal: having multiple events to visit collectively

- "Any agricultural activity that would encourage tourists to participate and learn about it."
- Diversified/value-added/additional income
- VCE definition of agritourism
- Concentrated organized ways to view nature

**Advantages to Include in Marketing:**

- 37 miles of New River
- Cascades
- Appalachian Trail
- National Forest/ Pandapas Pond
- Pretty farms
- Wildlife
- Mountains
- Lack of development
- Hiking
- Star gazing
- Sense of community → that recognizes the importance of agriculture
- Encouraging local/county government
- Fishing/boat ramps
- Strong agricultural businesses: TSC, livestock market
- The beginnings of school farm
- Space
- Route 460
- Close to VT → employees, and students that will spend more money

**Report 1B: Pulaski County Producers and Extension Agents**

**Pulaski County:**

**Agritourism Definition:**

- "No lazy vacations" –ACTIVE
- "Working"/Volunteering in addition to new experience
- Opportunity to diversify income
- Preserve rural character
- Help agriculture to be more sustainable
- Hunting
- Fishing (Carroll Co example): paying to do so
- Inclusive
- Learn and see stuff
- Demonstration- old farm equipment

**Advantages to Include in Marketing:**

- Air quality
- Natural resources
- Hunting

- Climate
- Access to quality water
- Mountains: Appalachian Trail, forests, hiking, scenery
- Roads/ease of access: public getting here, and products getting out
- Railroads
- Pricing: cheap stuff/activities
- People: character, friendly → sense of community
- Colleges
- Technology infrastructure (availability of information)
- VTC, NRV Explore

**Mission:**

- Access to school level/information (using it as a catalyst for information)
- Internet
- Up-to-date information
- Wineries
- Artisan tours: farms, crafters
- Coordinate/promote information
- Cross sector marketing→ industry/business
- Intra-marketing
- Industry support/involvement
- Education/information
- Reduce barriers of entry (into industry/agritourism)
- Agriculture industry friendly regulations
- Identified success stories

**Name Suggestions:**

- Contest (farmers, industry)
    - Efficient/clear
    - Name and picture
    - Ex: (Pulaski) Orchestrated by Nature
- Inclusive
    - With sub-categories
    - Ex: Kitchen Counter Cooking School
- Focus on language

## Report 1C: Montgomery County Producers and Extension Agents

**<u>Montgomery County:</u>**

**Agritourism Definition:**

- Hands On --- Minds On Experience
- Active or participative
- Rural
- Exciting, experience
- Farm and Family showcase

- Preservation, culture sharing
- Income
- Liability
- Protection-farmers
- Respect of profession/lifestyle
- Enticement
- Kentland Farm –Farm & Family Showcase
- Kid's Activities
- Cultural Sharing
- Genealogy Research…Common Family Names
- Educational
- Share and advertise our great climatic conditions "Natural Air Conditioning"
- Barn Dances
- Outdoor cooking
- Trails, Rivers: natural resource activity
- Horse Trails, Stables, Family Activities
- Working Vacations/"Staycations"
    - Stay and harvest grapes
    - Sheer sheep…process wool
    - Learn about a NRV culture, an ag practice, cooking classes, apple butter, wheat to bread class, how to use any local product…

**Production Agriculture:**

- Highlight production agriculture with expos, farm tours
- Opportunities with and through the Vet school
- Needed infrastructure to expand markets and local food systems
    - Increased processing/aggregation opportunities

**Advantages to Include in Marketing:**

- Education
- Sharing of culture, uniqueness of the NRV
- Resource Sharing
- Where to does your food come from…more informed consumers/buyers
- Income generating
- AG Business Incubator
- Develop app. Toward production agriculture
- Educate about production
- Foster respect for agriculture and natural resources
- Incubator
- Farm Expo
- Keeping product local
- Improve infrastructure
- Agriculture friendly policy/regulation

**Mission of Marketing:**

- Income
- Safety
- Sharing an experience
- Gaining appreciation for rural character
- Rural character
- Sharing a process environment
- Finding the gaps
- Increase communication
- Information sharing
- Educational
- Sharing/connections
- Inspiration
- Marketing
- Unique-stand out

**Name Suggestions:**

- Land and Sky ex.
- Agribeauty-NRV
- Harvesting the Blue Ridge
- Agri-spire
- Fields of Green
- New River Foundations

**How to Share Resources:**

- Website
- Paper ADS –
- Newsletter for producers/farmers and a Public Newsletter to advertise events
    - Forums on the website --- Farmer/Service Provider Toolkits
- Listservs
- Facebook, Social Media

**Statement:**

"Agriculture is very important". We all are part of the agriculture system; we all eat, wear clothes, and live under shelter. We need to appreciate and support such a vital system to all parts of life.

**<u>Sustain Floyd:</u>**

- One way to increase the demand and interest in what farmers in our region are producing is to develop a marketing campaign that allows the farmers to differentiate their products from the products produced by other farmers outside of the region.
- One way to bring this difference to the attention of our customers/buyers is by branding our products.

## Appendix C: Beef Slaughter Break-Even Analysis

The data utilized in examining the possibility of a beef processing facility are based upon information gathered from several small to medium scale processing facility studies. The data presented in this document is meant to provide information for decisions regarding the possibility of a facility in the tri-county area.

The table below presents details of the processing facilities which were utilized to estimate expense and revenue figures for the preliminary break even model. The three businesses fall within a reasonable range of a small to medium sized processing facility. The estimates utilized in the break even model are also presented in the column labeled NRV. More detailed explanations and the calculation of break even figures are presented later in the document.

**Table 7: General Facility Descriptions**

| | VA Study 1 | Georgia Study | VA Study 2 | NRV Est. |
|---|---|---|---|---|
| **Building** | $975,000 | $500,000 | $975,000 | $950,000.00 |
| **Design** | $51,000 | n/a | $60,000 | $55,000.00 |
| **Land** | $195,000 | $250,000 | $195,000 | $185,000.00 |
| **Equipment** | $152,530 | $266,094 | $175,000 | $170,000.00 |
| **Labor** | $320,687 | $316,159 | n/a | n/a |
| **Size** | 6400 sq ft | "smaller" | n/a | “smaller” |
| **Species** | Beef | Multi-Species | Multi-Species | Beef |

The following scenario results show the amount of cows that must be processed to cover the main expenses of a slaughter facility. Sales and expense figures were estimated based upon other studies of small to mid-sized multi-species slaughter facilities.

### Capital Costs

The tables below present the capital costs of setting up the facility, which includes site preparation and equipment purchase. The Table below shows a total cost of processing cattle at $1.36 million which includes the processing facility, land, design and equipment.

**Table 8: Capital Costs**

| Capital Costs | |
|---|---|
| Building | $950,000.00 |
| Land/Site Preparation | $185,000.00 |
| Equipment | $170,000.00 |
| Design | $55,000.00 |
| Total Cost of Capital | **$1,360,000.00** |

### Financing

As is typically, the venture is financed using both owner equity as well as loans. It is assumed that the processing equipment will be purchased utilizing 40% owner equity and 60% debt. The terms of the loan are seven years term loan at 7% interest. If the facility processes only cattle, the monthly payment will be approximately $1,600.00.

The financing assumptions for land/site preparation and the purchase of the processing facility include the fact that these types of loans are typically 20-40 years long, with an average applied interest rate of 8%, resulting in a total monthly payment of approximately $4,430.

The loan for build out/design is shown last. This is associated with the expense of creating a building design that will properly house the processing equipment and any installation related to the equipment such as higher volt electrical outlets or a thicker foundation. Due to the lower cost of this loan, this is expected to be financed mainly by equity. The monthly payment estimated for this component is $381.

It should be noted that the payments, lengths, and interest rates will vary based on how the firm chooses to finance each cost. The terms and interest rates that have been applied to this model are based upon industry averages. In total, the processing facility will incur a monthly loan payment of around $6,400.00.

**Table 9: Total Monthly Finance Payment**

| | |
|---|---|
| Total Monthly Payment | $6,388.25 |

**Revenue (per unit)**
The anticipated average amount of revenue per unit that a facility could expect to make from each animal slaughtered and processed given the assumptions used is $315. The price charged to customers is made up of the fixed slaughter price and the variable processing charge, which is based upon the yield amount of each animal. For the purposes of this scenario we have assumed an average combined processing and slaughter charge.

**Variable Margin**
Next, the variable or contribution margin is what the firm expects to make off the average animal species after variable expenses have been accounted for. A variable margin percentage of 35% has been assumed based upon the rates applied in similar studies. This percentage means that after variable costs have been expensed, such as hourly processing labor, packaging and utilities, 35% of sales dollars remain and results in a dollar figure per unit of $110.25.

**Break Even (Equipment and Variable Costs)**
The following table shows the number of animals that must be processed in order to generate enough revenue to cover variable costs as well as the cost of equipment. Other fixed costs such as the building and land purchase are not included in this scenario.

In order to produce enough revenue to cover the monthly principal payment of $1,600.00 on the cattle equipment, the venture must slaughter 3 cows per week or 14 per month.

**Break Even (Total Capital Costs and Variable Costs)**
The next scenario takes into account all capital costs, ranging from the building and land purchase to equipment as well as variable costs. The facility would need to slaughter 14 cows per week or 58 per month.

**Break Even (Capital Costs, Variable Expenses and Other Expenses)**
The following scenario takes into account capital costs, variable costs, and other expenses. These other expenses are generally fixed costs and include items such as manager salaries, insurance payments, and professional service fees. As with the previously presented figures, these estimates were taken from a similar study of a plant.

**Table 10: Other Expenses**

| Other Expenses | |
|---|---|
| Indirect Labor | $73,000.00 |
| General and Administrative | $24,000.00 |
| Overhead | $55,000.00 |
| Total (Annual) | **$152,000.00** |
| Total (Monthly) | **$12,666.67** |

**Results and Analysis**
The results show that to cover the three types of expenses, a potential facility would need to process about **41 cows per week, 173 per month or 2,074 per year**. To reach breakeven, the processing facility would need to maintain this level of sales thorough out the year regardless of seasonality constraints.

**Table 11: Break Even – Variable, Capital and Fixed Costs**

| Capital/Variable/Fixed Costs | |
|---|---|
| Per Month | **173** |
| Per Week | **41** |

## Appendix D Wine Industry Resources

**Selected Industry Resource Entities:**

- **Virginia Winery Distribution Company (VWDC)**
  This company is the result of action by the Virginia General Assembly to provide Virginia wineries an alternative to using independent wine wholesalers. Any Virginia Cooperative that chooses to participate may distribute up to 3,000 cases of their wine per year through VWDC.

- **Virginia Wine Wholesalers Association**
  Created in 2008, the Virginia Wine Wholesalers Association provides another means of distribution for Virginia wineries. Under the membership provisions of this association, wineries are able to become agents of the state of Virginia. As agents, these wineries are allowed to take orders from retailers and deliver their product to the retail location.[71]

- **Virginia Tech Plant Pathology, Physiology, and Weed Science Department**
  - Virginia Tech Wine/Enology Grape Chemistry Group
    - www.vtwines.info

- **Virginia Vineyards Association**
  The Virginia Vineyards Association, incorporated in March 1983, originated in 1979/80 as a joint effort for information exchange and cooperation among viticulturists, wineries, and Virginia Tech. Membership is open to all who share an interest in the Virginia viticulture industry.

- **Virginia Wine Board**
  Created by the Virginia General Assembly in 1984 as part of Virginia's Department of Agriculture and Consumer Services, the Virginia Wine Board promotes the interests of vineyards and wineries in the Commonwealth through research, education and marketing. The Board fulfills duties such as dispensing funding from the Virginia Wine Promotion Fund for wine-related projects and initiatives, contracting research to improve viticultural and enological practices in the Virginia wine industry, promoting education about and appreciation for Virginia wines, promoting the growing of wine grapes and wine production throughout the Commonwealth, disseminating information on wine and viticultural topics, contracting marketing, advertising and other programs that promote the growth of the state's wine industry and the enjoyment of Virginia wines, and collaborating with state, regional, national, and international organizations on their work related to Virginia's wine industry.

- **Virginia Foundation for Agriculture, Innovation and Rural Sustainability (VA FAIRS)**
  The Virginia Foundation for Agriculture, Innovation and Rural sustainability (VA FAIRS) is a not for profit foundation based in Richmond, Virginia, with the mission of

[71] Felberbaum, Michael. Va. takes Novel Approach to Wine Distribution. http://thecabin.net/stories/060108/bus_0601080005.shtml

assisting rural agricultural enterprises in developing and advancing their agricultural, economic and social interests to enhance their quality of life. VA FAIRS offers services to all Virginia producers and rural areas, including farmers, groups, associations, and agricultural and rural development centers. As such, the Center's services have been used in rural areas in Virginia and bordering states.

- **NRV Grape Growers Association**
  This association seeks to disseminate information among the areas producers by holding regular meetings to address a variety of topics related to grape and wine production. The meetings provide access to experts on various topics, and allow producers to share best practices and collaborate.

## Appendix E: Selected Entities, Institutions, and Agencies

This list presents selected entities located in Giles, Pulaski, or Montgomery County as listed in the Virginia Employment Commission's Community Profile reports for each of the respective counties.

**Business:**

- VTech Corporate Research Center
- New River Valley Business Center
- New River Valley Commerce Park
- Jacksonville Center (Floyd Co)
- Radford University Business Assistance Center

**Healthcare:**

- LewisGale Hospital (Montgomery)
- LewisGale Hospital (Pulaski)
- Carilion Giles Community Hospital
- Carilion New River Valley Medical Center
- Edward Via College of Osteopathic Medicine in the Corporate Research Center

**NGO:**

- New River Land Trust
- The Appalachian Trail Conservancy
- Catawba LandCare

**Agencies:**

- New River Valley Planning District Commission
- Conservation Management Institute (CMI) at Virginia Tech
- Virginia Department of Conservation and Recreation (DCR)
- Virginia Tourism Corporation (VTC)
- Virginia Cooperative Extension
- Community Design and Assistance Center (CDAC) at Virginia Tech
- New River Highlands Resource Conservation and Development Council
- New River Valley Economic Development Alliance
- New River Valley Livability Initiative
- The Natural Resources Working Group

## Appendix F: Matson Consulting Background