Agriculture and Local Food Economies in the Appalachian Region

Presentation for A Fair Food System: Community Food Systems Summit
Central Appalachian Network, August 25, 2022

ARC Appalachian Regional Commission

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Appalachian Regional Commission

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TODAY'S PRESENTATION

- The ARC/KK&P Report
  - Our Assignment and Our Process
  - A Tour of the Report
  - Key Data Findings
  - Opportunity Areas
  - A Deeper Dive: An Example Opportunity and Case Study
- Adam Hudson, ReFresh Appalachia
- Katie Commender, Appalachian Sustainable Development Herb Hub
- Discussion

OUR ASSIGNMENT AND OUR PROCESS

Goals of the project

- Provide a **quantitative overview** of agricultural and local food activity throughout the Appalachian Region
- Identify **best practices and promising models** from across Appalachia, as well as elsewhere in the country, that support the development of local food systems and help farms increase revenues
- Identify **emerging opportunities in agriculture** throughout the Region, including types of crops and products as well as strategic and technological innovations

Our process

- 8-member advisory committee
- Literature review
- Quantitative overview
- Qualitative research
- Opportunity profiles and case studies

Advisory Committee

Tabitha Barbarito
Project Manager, Pasa Sustainable Agriculture

Fritz Boettner
Food System Development Director, Center for Resilient Communities, West Virginia University; Co-Director and General Manager, Turnrow Appalachian Farm Collective

Aleta Botts
Executive Director, Kentucky Center for Agriculture and Rural Development

Anthony Flaccavento
President, SCALE; Owner, Abingdon Organics

Laura Lauffer
Project Director for EmPOWERing Mountain Food Systems, Center for Environmental Farming Systems, North Carolina State University

Debbie Phillips
CEO, Rural Action

Brennan Washington
1890 Land Grant Liaison and Southeastern Outreach Coordinator, Southern SARE Program, Fort Valley State University

Jerone Wiggins
Director of Educational Partnerships, Jones Valley Teaching Farm

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April 2022

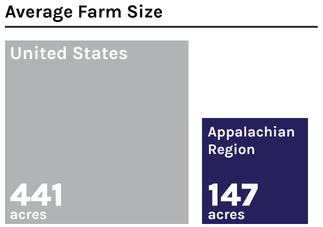
A Tour of the Report

1.

Executive Summary

JOHNSON CITY FARMERS MARKET IN JOHNSON CITY, TN. CREDIT: TENNESSEE DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT

Executive Summary



Farm Size and Land Composition

The Appalachian Region is characterized by smaller farms and lower rates of agricultural land use compared to the United States.

Farms in Appalachia are, on average, about one-third the size of the average U.S. farm; and just 11% of Appalachian farmland is in farms 2,000 acres or larger – compared to over half of U.S. farmland in farms of that size. Appalachia also has a lower rate of land use for farming compared to the U.S. as a whole: while 40% of U.S. land area is devoted to agriculture, the same is true for just 28% of land in Appalachia.

2.

Introduction and Background

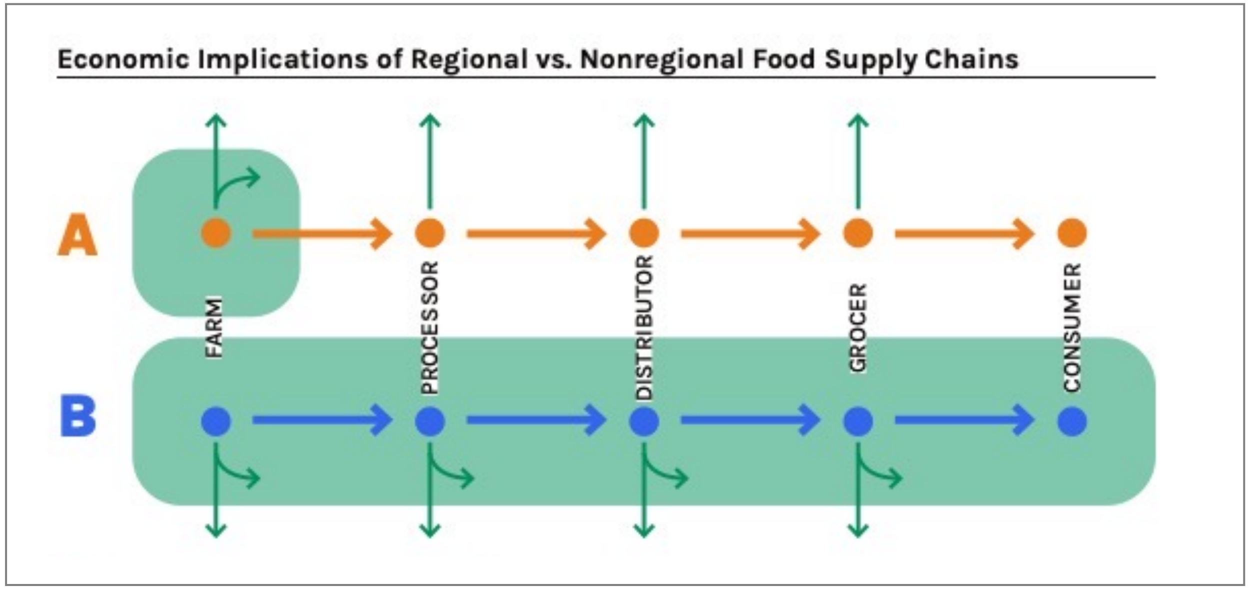
FIELD DAY AT AGRICENTER. CREDIT: AGLAUNCH

A TOUR OF THE REPORT

A Primer on Local Food Systems and Economic Development

- Benefits to Farmers and Community
- Resilience and Sustainability
- Equity
- Examples of Local and Regional Food System Development Initiatives

ARC's Research and Impact in Food Economies



3.
The Landscape of Agriculture and Local Food Economies in the Appalachian Region

FARM STAND IN UNICOI COUNTY, TN. CREDIT: TENNESSEE DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT

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History and Context for Appalachian Local Food Economies

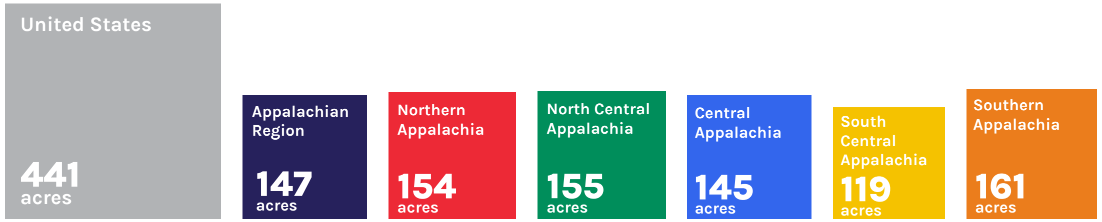
Current Trends and Dynamics in Appalachian Agriculture and Local Food Economies

- 7 key data findings

FARM SIZE AND LAND COMPOSITION

The Appalachian Region is characterized by **smaller farms and lower rates of agricultural land use** compared to the United States.

Average Farm Size



4. Opportunities to Strengthen the Appalachian Region's Local Food Economies

ROBOT. CREDIT: AGLAUNCH

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Overview of 7 Opportunity Areas with Relevant Case Studies

APPALACHIAN PRODUCTS AND IDENTITY

Elevate the Region's unique identity through distinct Appalachian crops and products and place-based regional branding.


AMERICAN GINSENG ROOT. CREDIT: AMY SHUMAKER

COMMUNITY-SOURCED INVESTMENT:
GOSHEN HOMESTEAD CREAMERY

ASSORTMENT OF GOSHEN HOMESTEAD DAIRY PRODUCTS. SOURCE: DWAYNE MCINTYRE OF CREDIT HOMESTEAD

KEY PROJECT STATS

Total project cost: Approx. $100K, including a $25K investment by the McIntyres

Total amount raised: $75K
- Herdshare members: $50K
- Extended family: $25K

Total number of Herdshare member investors: 8

Profitability
- Year 1: Loss
- Year 2: Nearly break even (within $1-2k of profit)
- Year 3: Projected profit

Equity
- McIntyres own 60% of the company
- Extended family owns 15%
- Herdshare member investors own 25%

Size of the dairy
- Current: Milking 12 cows, for 30 gallons of milk per day
- Projected growth: Aiming to cap at 25 cows

Dwayne McIntyre of Goshen Homestead in southwest Virginia successfully utilized a community-sourced investment strategy to fund the construction of a new Grade A microdairy with its own LLC. Dwayne turned to customers of Goshen Homestead's Herdshare program, a variation on a subscription model, to ask for a modest equity investment in the microdairy. Upon conceiving of this investment model, Dwayne wrote a detailed business plan, pitched investors, received the necessary funds, and broke ground on the microdairy, all in a matter of months.

The Story

The McIntyre family owns and operates Goshen Homestead, a diversified farm in Elk Garden, Virginia. The McIntyres grow and sell a variety of animal products, including pastured chicken and turkey, eggs, and products from a grass-based dairy. Goshen's grass-based dairy has been in operation for the better part of a decade, providing fresh, raw milk to members of its Herdshare program. Virginia law allows

Overview of 7 Opportunity Areas with Relevant Case Studies

KEY TAKEAWAYS

States offer flexible funding opportunities for Appalachian farmers and food businesses.

States can play a meaningful role in providing a range of funding mechanisms and resources for Appalachian farmers and food businesses

Technical support can be embedded in state funding programs.

Collaborative state initiatives that engage state departments of agriculture and other executive agencies, the Cooperative Extension Service, public universities, and non-profit organizations can provide funding tied to accountability, training, technical assistance, and additional modes of support.

Targeted state funding can shepherd agricultural transition.

The Master Settlement Agreement and related support streams provided new sources of agricultural funding in many Appalachian states. This funding incentivized farmers to transition production to new products and markets, and has bolstered the local food economy in the Region. This supported, incentivized transition from tobacco can serve as a model for a transition to more climate-resilient agricultural practices.


2021 FIELD DAY AT AGRICENTER. CREDIT: AGLAUNCH

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Appendix 1: Data Sources

Appendix 2: Interviewees

Table 1.1. Number of Farms and Land in Farms, 2017

	Farms			Farmland		
		Change in Farms			Change in Farmland	
	Number of Farms	2007-2017 (10 yr)	2012-2017 (5 yr)	Land in Farms (Acres)	2007-2017 (10 yr)	2012-2017 (5 yr)
United States	2,042,220	-7.4%	-3.2%	900,217,576	-2.4%	-1.6%
Appalachian Region	248,681	-10.7%	-3.1%	36,492,581	-4.7%	-2.6%
Subregions						
Northern Appalachia	60,886	-11.3%	-7.0%	9,355,450	-5.1%	-3.9%
North Central Appalachia	36,661	0.7%	5.2%	5,693,111	0.4%	1.5%
Central Appalachia	40,388	-11.2%	-1.9%	5,874,562	-8.1%	-2.1%
South Central Appalachia	53,837	-12.3%	-2.7%	6,402,966	-2.5%	-3.7%
Southern Appalachia	56,909	-14.6%	-4.7%	9,166,492	-6.6%	-3.2%
County Types						
Large Metros (pop. 1 million +)	21,190	-13.9%	-2.6%	2,843,883	-5.3%	-0.7%
Small Metros (pop. <1 million)	73,174	-10.1%	-1.1%	9,045,019	-5.9%	-2.8%
Nonmetro, Adjacent to Large Metros	34,150	-12.3%	-3.7%	5,485,496	-3.9%	-0.7%
Nonmetro, Adjacent to Small Metros	72,045	-9.6%	-3.8%	11,052,063	-2.1%	-2.3%
Rural (nonmetro, not adj. to a metro)	48,122	-10.8%	-4.5%	8,066,120	-7.3%	-4.7%
Appalachian States						
Alabama	40,592	-16.7%	-6.1%	8,580,940	-5.0%	-3.6%
Appalachian Alabama	26,023	-18.2%	-6.1%	4,291,185	-5.9%	-2.5%
Non-Appalachian Alabama	14,569	-14.1%	-6.1%	4,289,755	-4.2%	-4.7%
Georgia	42,439	-11.3%	0.4%	9,953,730	-1.9%	3.5%
Appalachian Georgia	13,894	-11.0%	0.1%	1,489,541	-0.3%	3.6%
Non-Appalachian Georgia	28,545	-11.5%	0.6%	8,464,189	-2.2%	3.4%
Kentucky	75,966	-10.9%	-1.4%	12,961,784	-7.4%	-0.7%
Appalachian Kentucky	27,947	-11.6%	-2.5%	4,189,096	-10.6%	-1.7%
Non-Appalachian Kentucky	48,019	-10.5%	-0.8%	8,772,688	-5.8%	-0.2%
Maryland	12,429	-3.2%	1.4%	1,990,122	-3.0%	-2.0%
Appalachian Maryland	1,874	2.8%	3.1%	244,887	-0.5%	-6.2%
Non-Appalachian Maryland	10,555	-4.1%	1.1%	1,745,235	-3.3%	-1.4%
Mississippi	34,988	-16.6%	-8.1%	10,415,136	-9.1%	-4.7%
Appalachian Mississippi	10,811	-17.8%	-10.6%	2,883,675	-10.4%	-7.4%
Non-Appalachian Mississippi	24,177	-16.1%	-7.0%	7,531,461	-8.6%	-3.6%
New York	33,438	-8.0%	-5.9%	6,866,171	-4.3%	-4.4%
Appalachian New York	10,289	-10.2%	-6.5%	2,018,558	-4.6%	-4.0%
Non-Appalachian New York	23,149	-7.0%	-5.6%	4,847,613	-4.2%	-4.6%
North Carolina	46,418	-12.3%	-7.6%	8,430,522	-0.5%	0.2%
Appalachian North Carolina	14,458	-13.3%	-9.4%	1,430,888	2.1%	1.0%
Non-Appalachian North Carolina	31,960	-11.8%	-6.7%	6,999,634	-1.0%	0.0%
Ohio	77,805	2.6%	3.1%	13,965,295	0.1%	0.0%
Appalachian Ohio	27,896	5.9%	1.7%	3,975,857	1.8%	1.5%
Non-Appalachian Ohio	49,909	0.8%	3.9%	9,989,438	-0.6%	-0.5%
Pennsylvania	53,157	-15.8%	-10.4%	7,278,668	-6.8%	-5.5%
Appalachian Pennsylvania	34,366	-19.1%	-11.8%	5,218,004	-7.6%	-5.5%
Non-Appalachian Pennsylvania	18,791	-9.2%	-7.6%	2,060,664	-4.6%	-5.6%
South Carolina	24,791	-4.2%	-1.9%	4,744,913	-3.0%	-4.6%
Appalachian South Carolina	6,181	2.3%	2.4%	502,091	-7.1%	-1.8%
Non-Appalachian South Carolina	18,610	-6.1%	-3.2%	4,242,822	-2.4%	-4.9%
Tennessee	69,983	-11.7%	2.8%	10,874,238	-0.9%	0.1%
Appalachian Tennessee	37,780	-10.8%	3.9%	4,319,474	-2.7%	-0.6%
Non-Appalachian Tennessee	32,203	-12.8%	1.7%	6,554,764	0.4%	0.5%
Virginia	43,225	-8.8%	-6.1%	7,797,979	-3.8%	-6.1%
Appalachian Virginia	13,540	-13.4%	-10.3%	2,267,147	-3.6%	-11.4%
Non-Appalachian Virginia	29,685	-6.5%	-4.0%	5,530,832	-3.9%	-3.7%
West Virginia	23,622	0.0%	9.9%	3,662,178	-1.0%	1.5%

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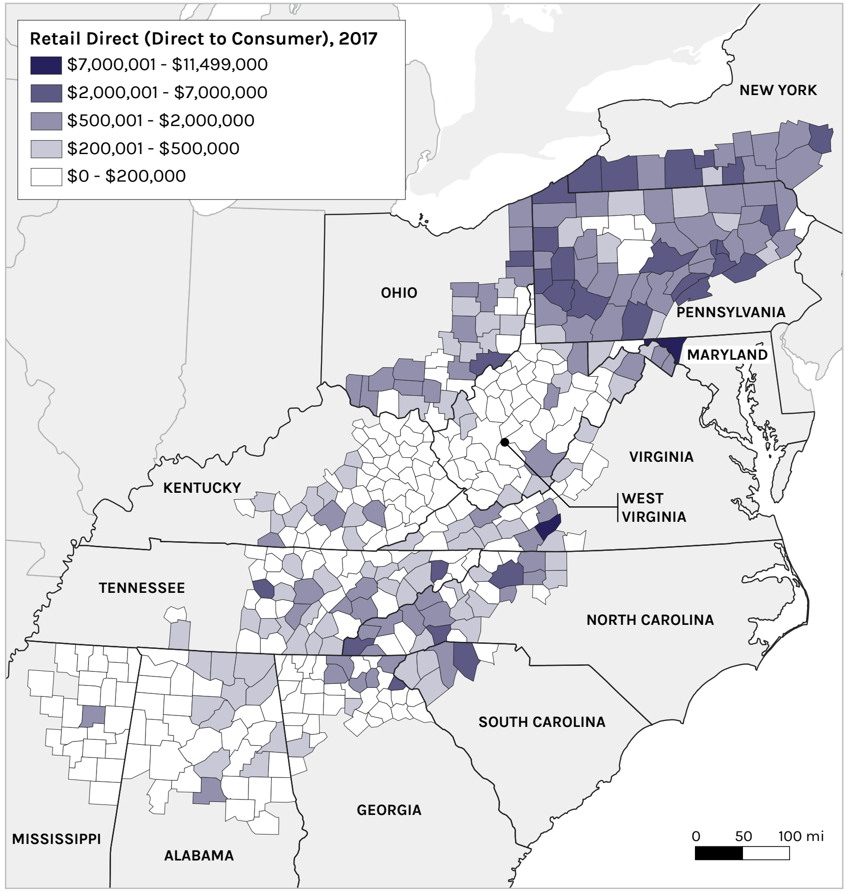
Appendix 3: Databook

- 40 pages of tables and maps

Map 4.1. Retail Direct (Direct to Consumer), 2017



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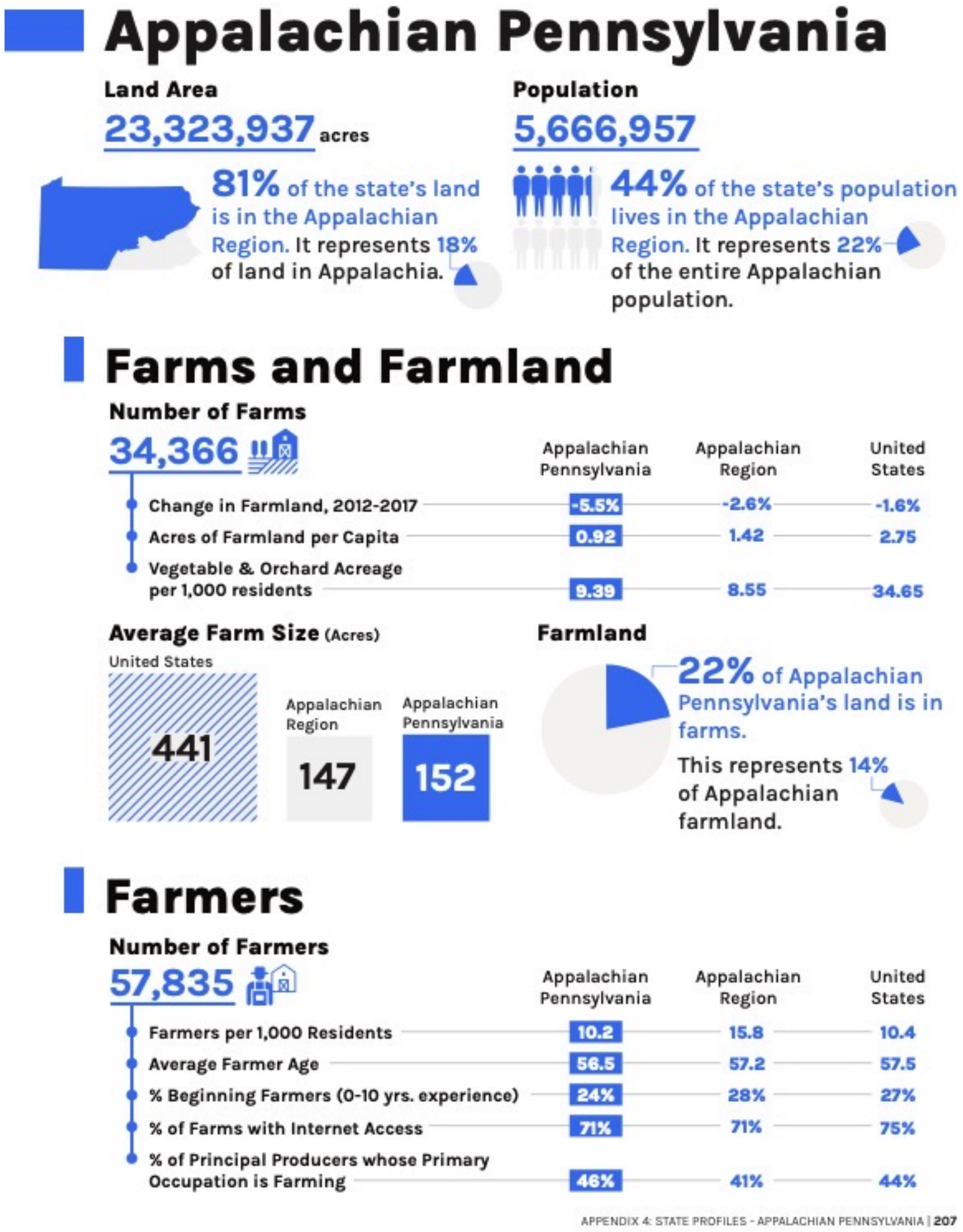
Appendix 4: State Profiles

- 2-page data profiles for each Appalachian state



Appalachian Pennsylvania

Land Area
23,323,937 acres

81% of the state's land is in the Appalachian Region. It represents 18% of land in Appalachia.

Population
5,666,957

44% of the state's population lives in the Appalachian Region. It represents 22% of the entire Appalachian population.

Farms and Farmland

Number of Farms
34,366

	Appalachian Pennsylvania	Appalachian Region	United States
Change in Farmland, 2012-2017	-5.5%	-2.6%	-1.6%
Acres of Farmland per Capita	0.92	1.42	2.75
Vegetable & Orchard Acreage per 1,000 residents	9.39	8.55	34.65

Average Farm Size (Acres)

United States	Appalachian Region	Appalachian Pennsylvania
441	147	152

Farmland

22% of Appalachian Pennsylvania's land is in farms.

This represents 14% of Appalachian farmland.

Farmers

Number of Farmers
57,835

	Appalachian Pennsylvania	Appalachian Region	United States
Farmers per 1,000 Residents	10.2	15.8	10.4
Average Farmer Age	56.5	57.2	57.5
% Beginning Farmers (0-10 yrs. experience)	24%	28%	27%
% of Farms with Internet Access	71%	71%	75%
% of Principal Producers whose Primary Occupation is Farming	46%	41%	44%

APPENDIX 4: STATE PROFILES - APPALACHIAN PENNSYLVANIA | 207

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Sales

Total Agricultural Sales

$3,140,311,000

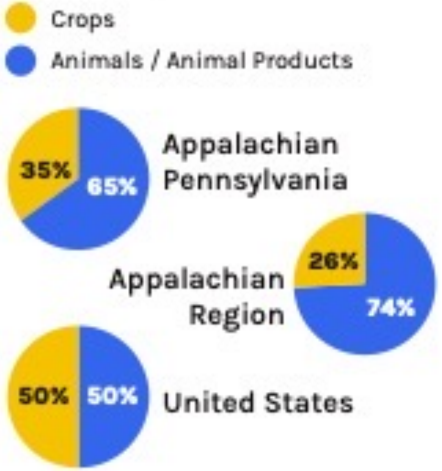
This represents **16%** of the overall Agricultural Sales in the Appalachian Region.

	Appalachian Pennsylvania	Appalachian Region	United States
Retail Direct (to Consumer) Sales per Capita	$12.81	$9.44	$8.57
Sales per Acre	$602	$543	$432
Net Income per Acre	$176	$143	$98

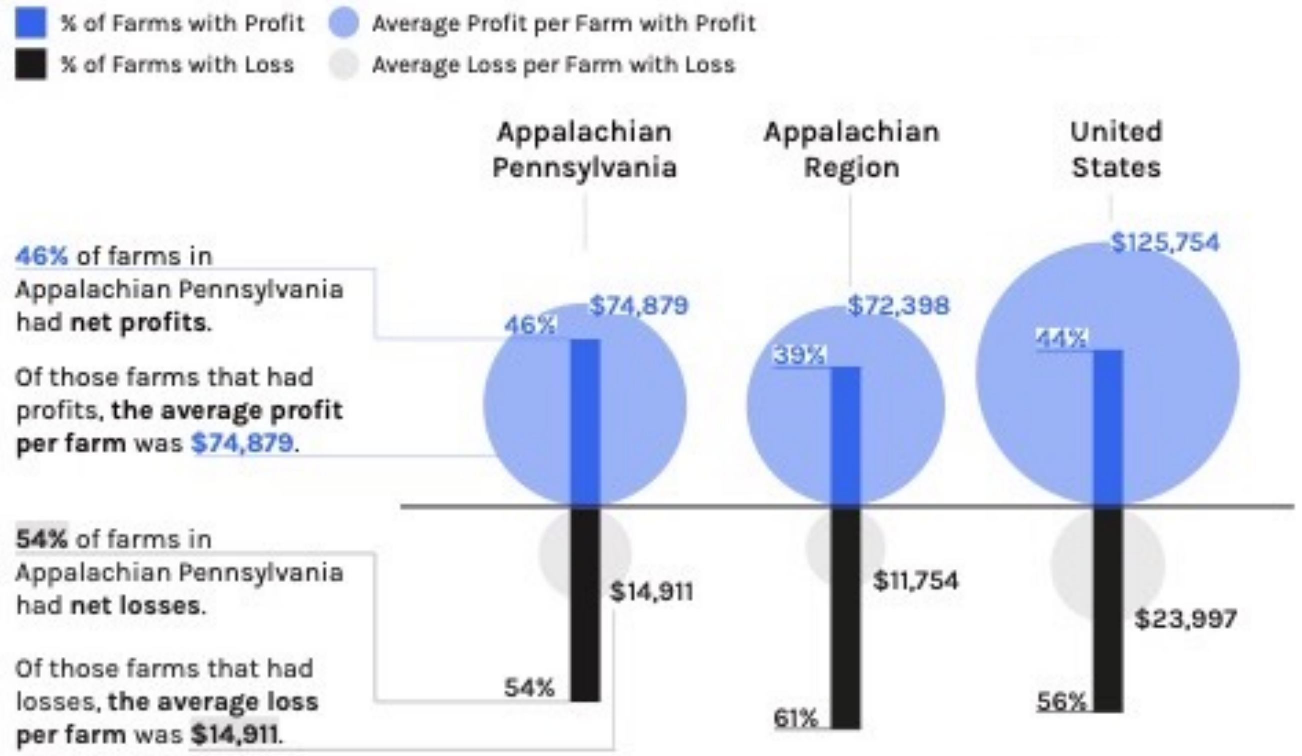
73% of **Agricultural Sales** in Appalachian Pennsylvania are from its **Top 5 Product Categories:**

Milk	$898 M
Poultry & Eggs	$520 M
Corn	$303 M
Cattle and Calf	$299 M
Hogs	$275 M

Percent of Agricultural Sales from Crops and Animals / Animal Products



Farm Net Profits and Losses



Agriculture and Local Food Economies in the Appalachian Region

April 2022

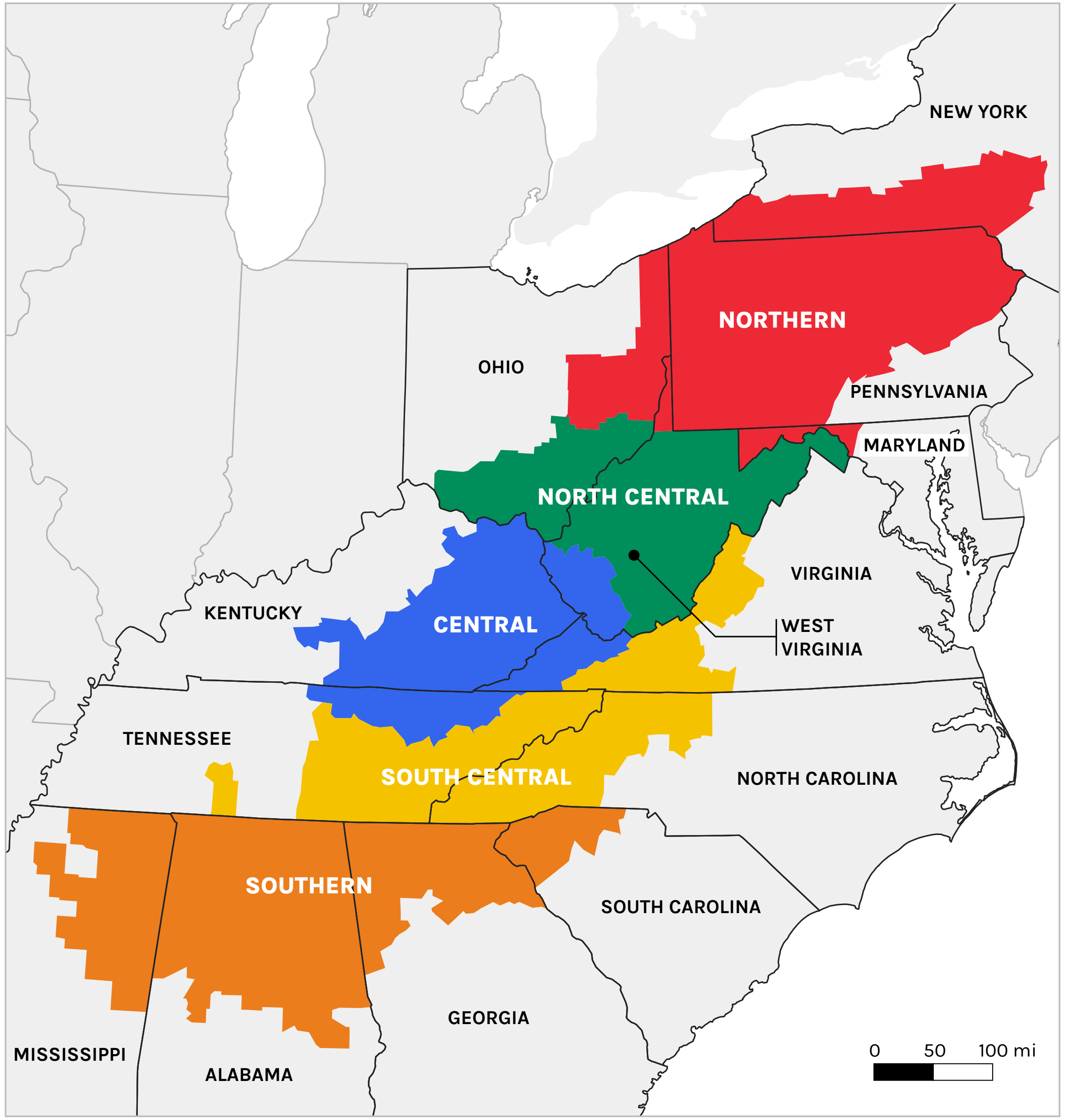
Appalachian Regional Commission

KK&P

Key Findings: Current Trends and Dynamics in Appalachian Agriculture and Local Food Economies

KEY FINDINGS: CURRENT TRENDS AND DYNAMICS IN APPALACHIAN AGRICULTURE AND LOCAL FOOD ECONOMIES

The Appalachian Region and its Subregions



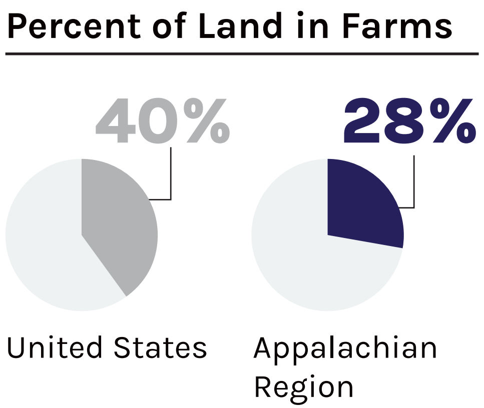
Farms and Farmland

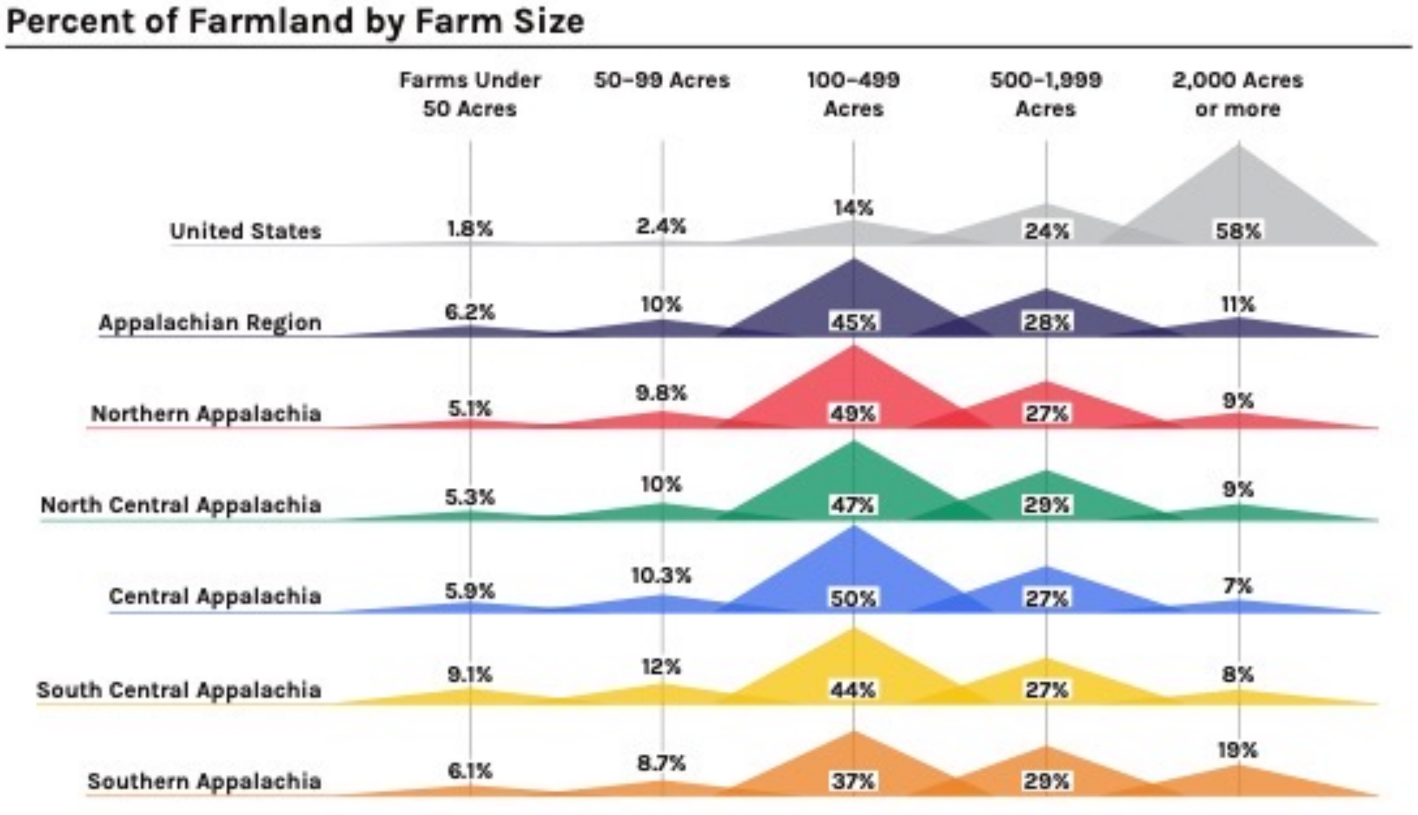
From 2007 to 2017, **the Region lost farms and farmland at rates higher than the U.S.** as a whole.

	Farm Loss, 2007-2017	Farmland Loss, 2007-2017
United States:	-162,572 farms (-7.4% of its farms)	-21,878,264 acres (-2.4% of its farmland)
Appalachian Region:	**-29,875** farms (-10.7% of its farms)	**-1,810,671** acres (-4.7% of its farmland)
Subregions:		
Northern Appalachia	-7,766 (-11.3%)	-503,318 (-5.1%)
North Central Appalachia	+237 (+0.7%)	+21,267 (+0.4%)
Central Appalachia	-5,103 (-11.2%)	-518,921 (-8.1%)
South Central Appalachia	-7,547 (-12.3%)	-165,987 (-2.5%)
Southern Appalachia	-9,696 (-14.6%)	-643,712 (-6.6%)
County Type:		
Large Metros (pop. >1 million)	-3,427 (-13.9%)	-158,821 (-5.3%)
Small Metros (pop. <1 million)	-8,197 (-10.1%)	-565,030 (-5.9%)
Nonmetro, Adjacent to Large Metros	-4,795 (-12.3%)	-222,469 (-3.9%)
Nonmetro, Adjacent to Small Metros	-7,654 (-9.6%)	-233,486 (-2.1%)
Rural (nonmetro, not adj. to a metro)	5,802 (-10.8%)	-630,865 (-7.3%)

Farm Size and Land Composition

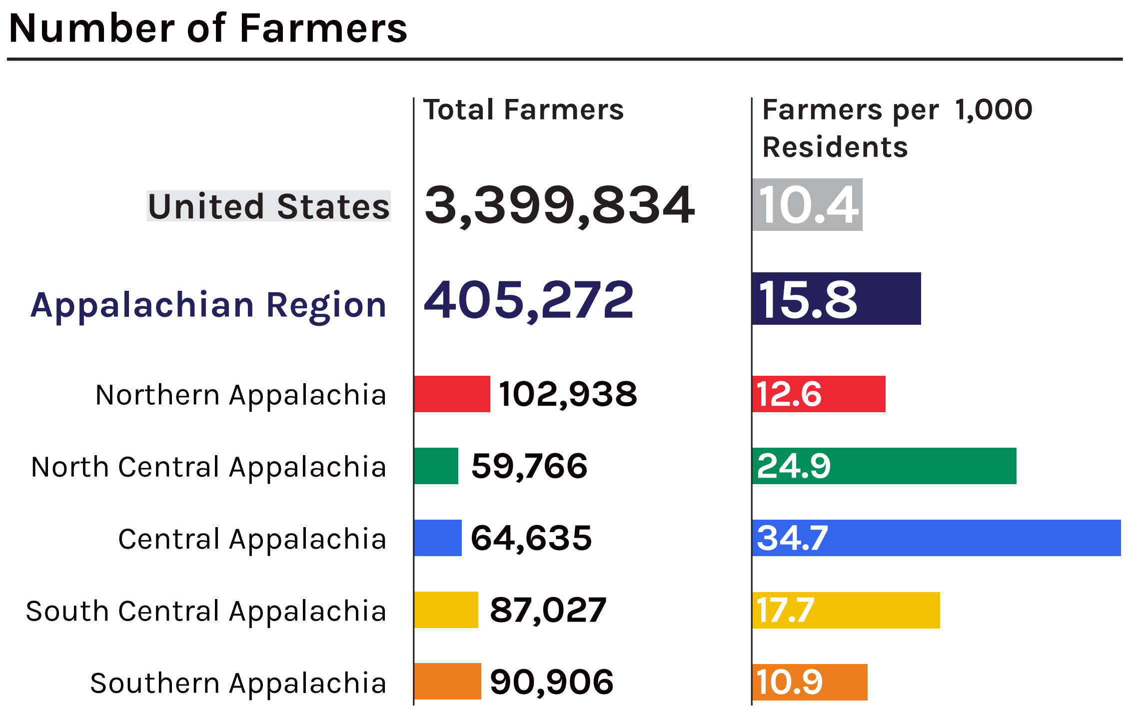
The Appalachian Region is characterized by **smaller farms and lower rates of agricultural land use** compared to the United States.





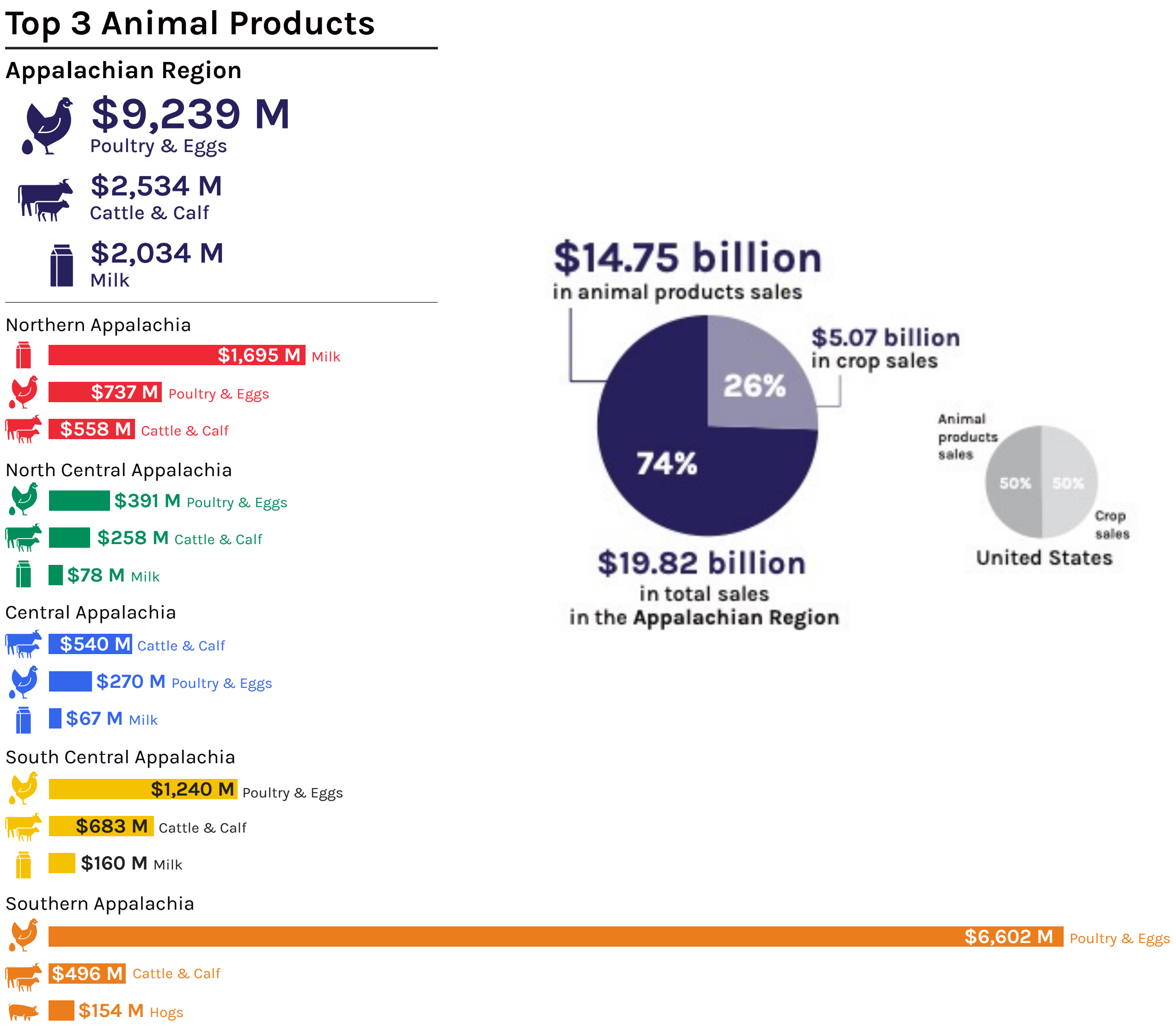
Farming Participation and Farmer Demographics

With over 400,000 farmers, the **Appalachian Region's population participates in farming at a rate higher than the U.S.** as a whole.



Agricultural Products

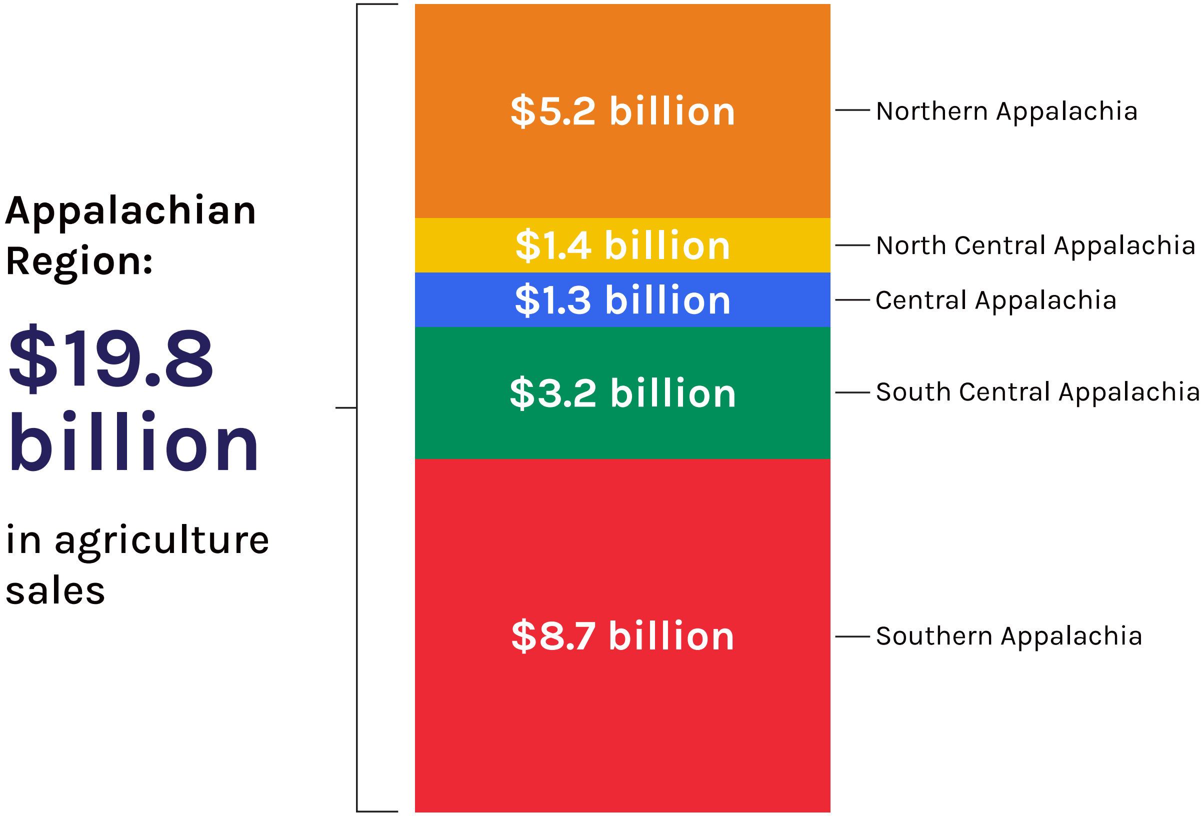
Animal products account for a significant majority of the Appalachian Region's agriculture sales.



Sales and Revenue

The Appalachian Region's farms generated nearly **$20 billion in sales in 2017**, with sales growth that outpaced the U.S. from 2012 to 2017.

2017 Agriculture Sales



Local Food Economies

The Region's **local food economies vary widely** in their level of development. Potential for growth may be slowed by **limited supply in vegetable and fruit production.**

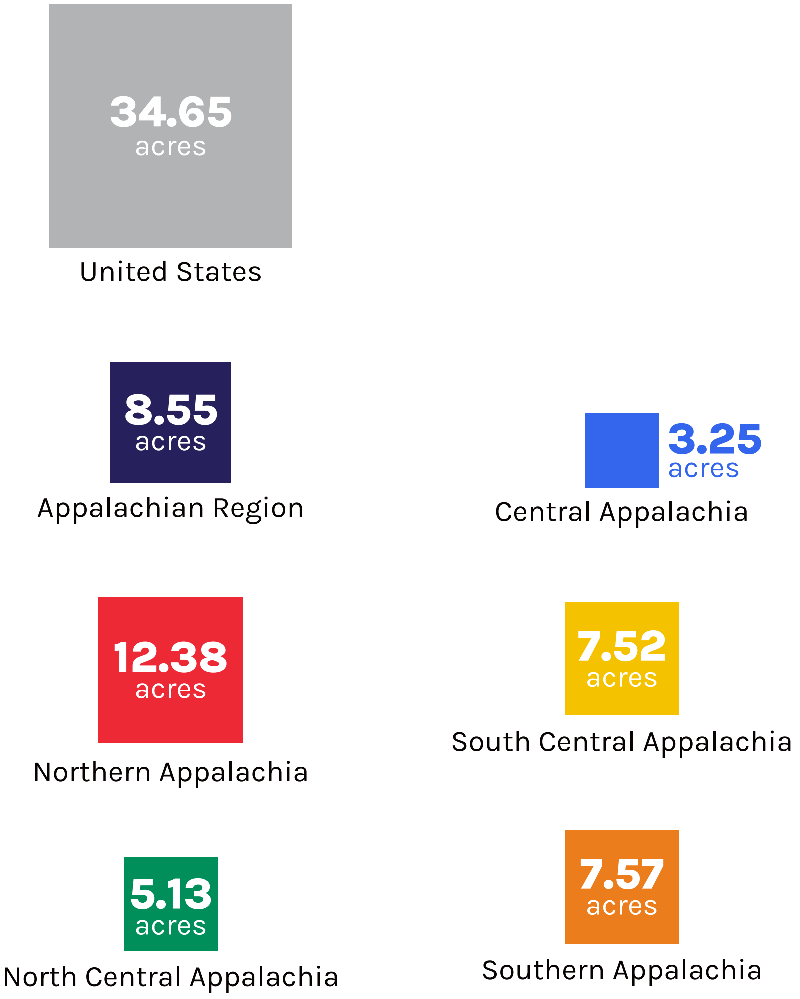
Retail Direct Sales and Wholesale Direct Sales in the United States and the Appalachian Region

	Retail Direct (Direct to Consumer)				Wholesale Direct		
	% of Farms	Total Retail Direct Sales	Share of Total Ag. Sales	Sales Per Capita	% of Farms	Total Wholesale Direct Sales	Share of Total Ag. Sales
United States	6.4%	$2,805 M	0.7%	$8.57	1.4%	$9,036 M	2.3%
Appalachian Region	7.3%	$242 M	1.2%	$9.44	1.2%	$250 M	1.3%
Subregions							
Northern Appalachia	11.1%	$126 M	2.4%	$15.44	2.2%	$130 M	2.5%
North Central Appalachia	7.1%	$24 M	1.8%	$9.94	1.0%	$7 M	0.5%
Central Appalachia	4.7%	$11 M	0.9%	$6.15	0.6%	$7 M	0.5%
South Central Appalachia	7.3%	$55 M	1.7%	$11.27	1.3%	$48 M	1.5%
Southern Appalachia	5.0%	$26 M	0.3%	$3.08	0.7%	$58 M	0.7%

Local Food Economies

The Region's **local food economies vary widely** in their level of development. Potential for growth may be slowed by **limited supply in vegetable and fruit production.**

Vegetable and Orchard Acreage per 1,000 Population



SNAP Benefits and Local Foods

The Appalachian Region appears to have **room for growth in capturing SNAP dollars** for the Region's farmers and food economies.

SNAP Redemptions at Farmers' Markets (FMs) and Direct Marketing Farmers (DMFs) in 2019

	Total SNAP Redemptions at FMs and DMFs	FM/DMF SNAP Redemptions per SNAP Household	FM/DMF SNAP Redemptions per SNAP FM/DMF
United States	$22,679,787	$1.82	$6,197
All Appalachian States	$6,200,194	$1.34	$5,905
Appalachian States			
Alabama	$92,103	$0.38	$2,047
Georgia	$265,733	$0.57	$3,163
Kentucky	$71,885	$0.30	$1,141
Maryland	$164,415	$0.84	$3,355
Mississippi	$200,837	$1.24	$5,150
New York	$2,953,033	$3.27	$13,242
North Carolina	$249,442	$0.53	$2,626
Ohio	$245,204	$0.47	$2,250
Pennsylvania	$1,377,339	$2.56	$14,199
South Carolina	$162,123	$0.70	$2,702
Tennessee	$146,069	$0.44	$2,518
Virginia	$219,058	$0.96	$2,235
West Virginia	$52,953	$0.49	$1,765

Agriculture and Local Food Economies in the Appalachian Region

April 2022

Appalachian Regional Commission

KK&P

Opportunities to Strengthen the Appalachian Region's Local Food Economies

Farmer Training, Land Access, and Farmland Preservation

Support the long-term viability of Appalachian agriculture through farmer training and land access and preservation.

- Preserve Existing Farmland
- Support Access to Farmland
- Meet Market Opportunities

CASE STUDY

- Pasa Sustainable Agriculture: Farmer Apprenticeships

Funding

Pursue innovative funding and financing models that open new streams of capital for local food businesses.

- Community Capital
- State Investments in Local Foods

CASE STUDIES

- Goshen Homestead Creamery: Community-Sourced Investment
- State Investments: KY, NC, and PA

Value Chain Coordination and Networking

Enhance the efficacy of the Region's distribution networks through strategic regional collaboration.

- Leverage Existing Assets and Resources
- Fund Value Chain Coordination
- Targeted Infrastructure Investments

CASE STUDIES

- Turnrow Appalachian Farm Collective: Collaborative Food Hub
- ACEnet: Farm and Food Business Incubation

Animal Agriculture

Build and strengthen supply chain networks and partnerships supporting animal-based agriculture.

- Expand the Capacity of Infrastructure
- Support Regulatory Compliance

CASE STUDIES

- Marksbury Farm Market and Hickory Nut Gap: Supply Chain Partnership
- Homestead Creamery and Joyce Farms: Breed Selection

Appalachian Products and Identity

Elevate the Region's unique identity through distinct Appalachian crops and products and place-based regional branding.

CASE STUDIES

- Herb Hub, Appalachian Beginning Forest Farming Coalition, ForestHER: Forest Crop Production
- Hickory Nut Gap Meats, VT Dairy Marketing: Leveraging Regional Identity

Food Access

Capture more public and private food assistance dollars to support local food producers while enhancing community food security.

- SNAP (Food Stamps)
- Food Bank Innovation

CASE STUDIES
- Local Produce Prescription Programs
- Mountaineer Food Bank, Food Bank of NE GA: Food Bank Innovations

The Future of Farming in Appalachia

Support the viability of farms into the future through cultivating place-based entrepreneurship and climate-resilient enterprise models.

- Entrepreneurship, Diversification, Meeting Local Demand
- Climate-Resilient Production Systems

CASE STUDIES

- Agricultural and Economic Diversification
- AgLaunch Initiative: Cultivating Agricultural Innovation

Agriculture and Local Food Economies in the Appalachian Region

April 2022

ARC Appalachian Regional Commission

KK&P

A Deeper Dive: An Example Opportunity and Case Study

Animal Agriculture

Build and strengthen supply chain networks and partnerships supporting animal-based agriculture.

Context

- Concentration in Animal Agriculture: 75% of Region ag sales
- Challenges in processing infrastructure and capacity
- Challenging regulatory environments – especially for small producers

Number of Beef Processing Facilities

For every **1,000 farm operations (of any size) with cattle sales**, there are:

9.5 small or very small beef processing facilities in the **United States** and

1.3 small or very small beef processing facilities in the **Appalachian Region**.

Strategies

- Expand the capacity of infrastructure in the Region
- Support regulatory compliance (TA, education, and training)

Animal Agriculture

CASE STUDY

Supply Chain Partnership: **Marksbury Farm Market and Hickory Nut Gap**

- Partnership between meat processor Marksbury (KY) and meat producer HNG (NC)
- The collaboration has allowed both to grow in tandem since 2014

Key Takeaways

Partnerships and relationships are critical for successful regional meat supply chains.

Successful small-scale animal agriculture business models must be both environmentally and economically resilient.

Successful growth requires scaling up to meet the demand of committed wholesale buyers.

Agriculture and Local Food Economies in the Appalachian Region

April 2022

Appalachian Regional Commission

KK&P

Find the report at:

tiny.cc/ARClocalfoods

A follow-up project focused on **food security** is currently underway.

ben@kkandp.com

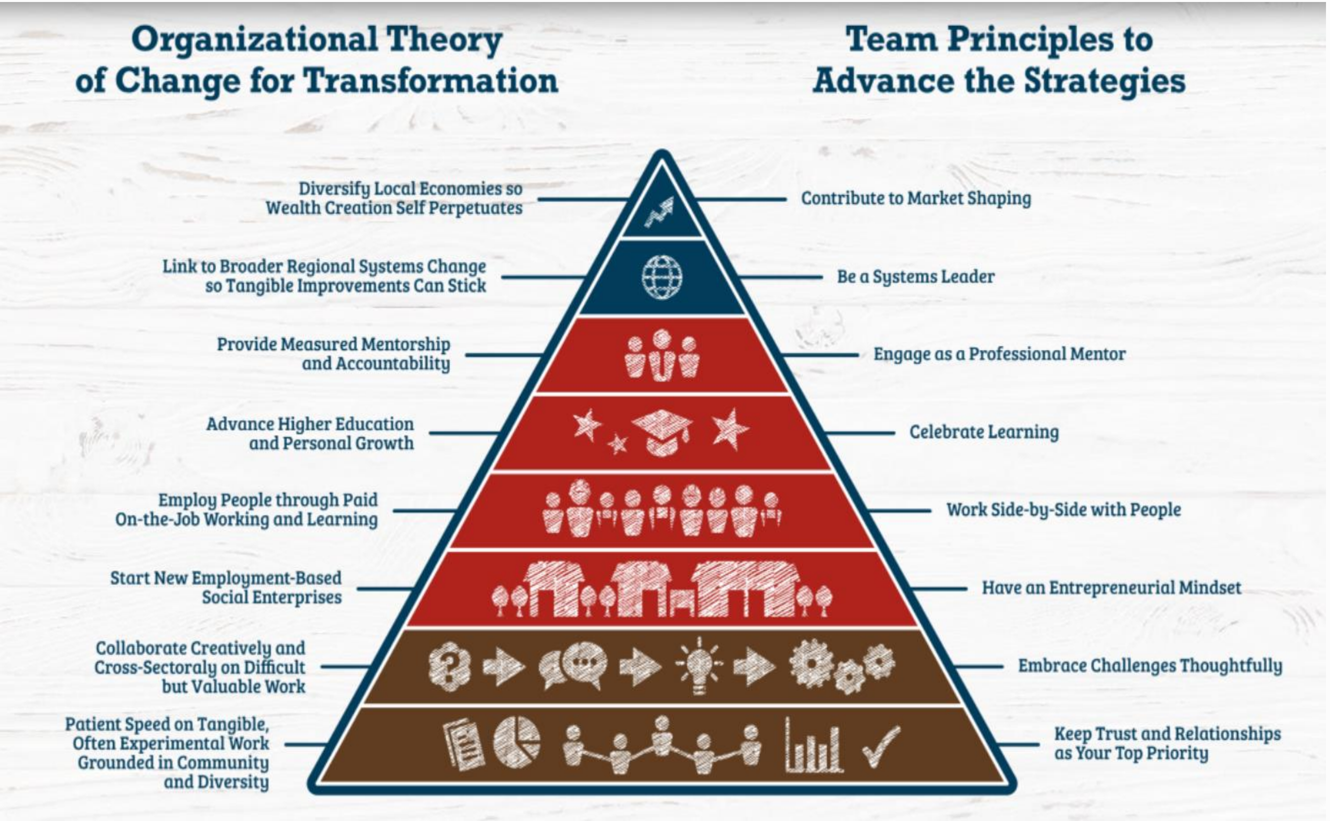
Rebuilding the Appalachian Economy From the Ground Up

refresh
APPALACHIA

COALFIELD
DEVELOPMENT

PRESENTED BY: ADAM HUDSON
DIRECTOR OF REFRESH APPALACHIA

COALFIELD DEVELOPMENT



About Coalfield

- Founded in 2009 In Wayne, West Virginia
- Vision: Resilient rural communities with **socially, environmentally, and financially thriving economies** which create the community conditions for all kinds of people to unlock their full **potential, power, and purpose.**

The Need

West Virginia now has:

- The nation's lowest labor participation rate
- The nation's second lowest higher education rate
- The nation's third highest poverty rate
- High need for economic diversification
- Severe environmental degradation

Refresh Appalachia is a program of Coalfield Development founded in 2015 with a focus on developing, shaping, and supporting the regenerative and sustainable agriculture sector in Central Appalachia.

4 Objectives:

- Expand agricultural knowledge, understanding, and opportunity through paid on-the-job training experiences.
- Strengthen and develop the agricultural sector through creative and collaborative partnerships and projects.
- Promote and facilitate aggregation and distribution for agricultural producers.
- Explore, experiment, and implement innovative and regenerative agriculture practices on degraded lands

OBJ 1: Knowledge and On the Job training

WRAPS Trainees

33-6-3
Crew Members

OBJ 2: Creative and collaborative partnerships

Systems Change

Capacity Building

APPALACHIAN sustainable DEVELOPMENT
LIVING BETTER. LOCALLY

ACEnet
GROWING OUR REGIONAL ECONOMY

EST. 2017 • TALCOTT, WV
Sprouting Farms

WestVirginiaUniversity
CENTER FOR RESILIENT COMMUNITIES

Central Appalachian Network

Collaborative Approaches

OBJ 3: Aggregation and distribution

OBJ 4: Regenerative agriculture on degraded lands


Highwall Site, Mingo Co. Wv.


Highwall Site, Mingo Co. Wv.


One Year of Rotational Livestock practices at the Highwall site in Mingo Co Wv


Former 22 Mine Road Project Site (2018)


Highwall Site, Mingo Co. Wv.

refresh APPALACHIA

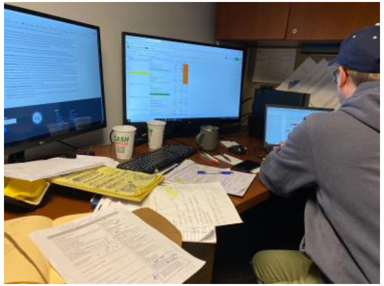
COALFIELD DEVELOPMENT

What does the system need?

- Climate Resiliency
  - Introduce and create practices that reduce environmental damage along the agriculture value chain
- Food Security
  - Increase locally and regional production and sourcing for local markets
- Infrastructure Improvements
  - Increase green technology use at warehouses, farms, and agriculture enterprises
  - Increase sustainability and viability of distribution, hybrid electric/ electric delivery methods

Continuing the story

- Replication
- Capacity Building
- Increase Investment
- Building Relationships





The story left to be told…

"It means that I have an opportunity to do something with my life and to help teach others what I have learned." Carlos *(Refresh Trainee)*

"I think of it as being a caterpillar. At the time you really can't tell a difference in who you are, but you can feel that you're supposed to be more than you have been." Megan *(Refresh WRAPS Graduate)*


West Edge Urban Agriculture Training Farm, Wayne Co. WV.


Fairfield Community (with Partner UFI), Cabell Co. Wv.


Highwall Site, Mingo Co. Wv.

refresh APPALACHIA

COALFIELD DEVELOPMENT

Fair Food Summit
August 25, 2022

The Appalachian Harvest Herb Hub™

Creating a Sustainable Herbal Economy in the Appalachian Mountains

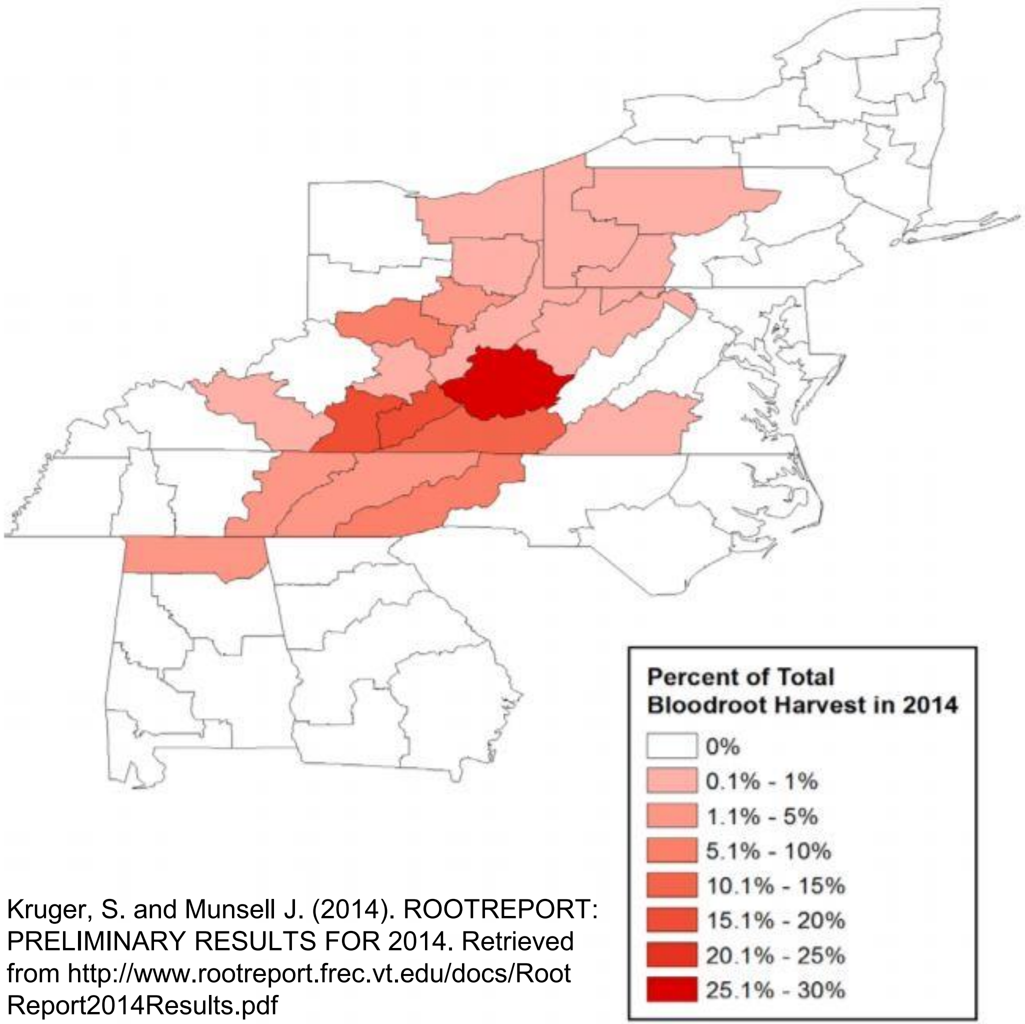
Katie Commender
Agroforestry Program Director
Appalachian Sustainable Development

Forest Farming

"the **cultivation** of high-value specialty crops **under a forest canopy** that is **intentionally modified or maintained** to provide shade levels and habitat that **favor growth** and **enhance production** levels"

Opportunities

- **Biodiversity hot spot** with over one-half of native U.S. medicinal plants found in **Appalachian forests**
- Deep rooted **cultural heritage of wild harvesting** forest botanicals, dating back to the 18th century
- Market value for forest-based medicinal plant products exceeds **one billion dollars annually**

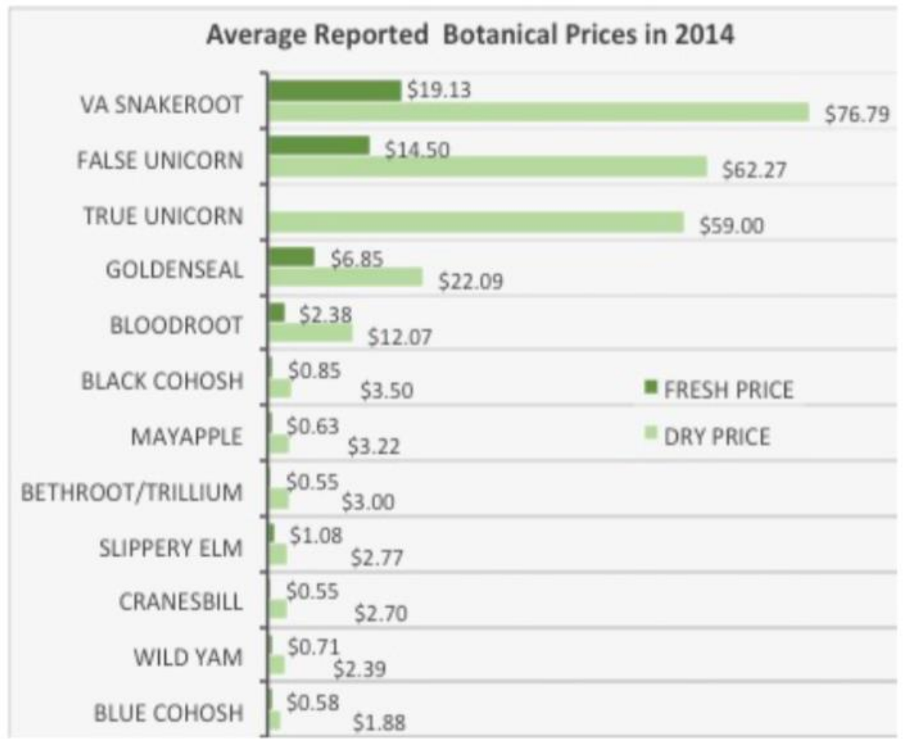


Kruger, S. and Munsell J. (2014). ROOTREPORT: PRELIMINARY RESULTS FOR 2014. Retrieved from http://www.rootreport.frec.vt.edu/docs/RootReport2014Results.pdf

(FIG.2)

Challenges

- Plants are **slow growing** with **small roots**
- Population declines from **over harvesting** and **habitat loss**
- **Prices are low**, based on inequitable wild harvest model
- Farming and home-scale processing are **labor intensive**
- **Planting stock** shortages
- Buyers can have **large volume minimums**



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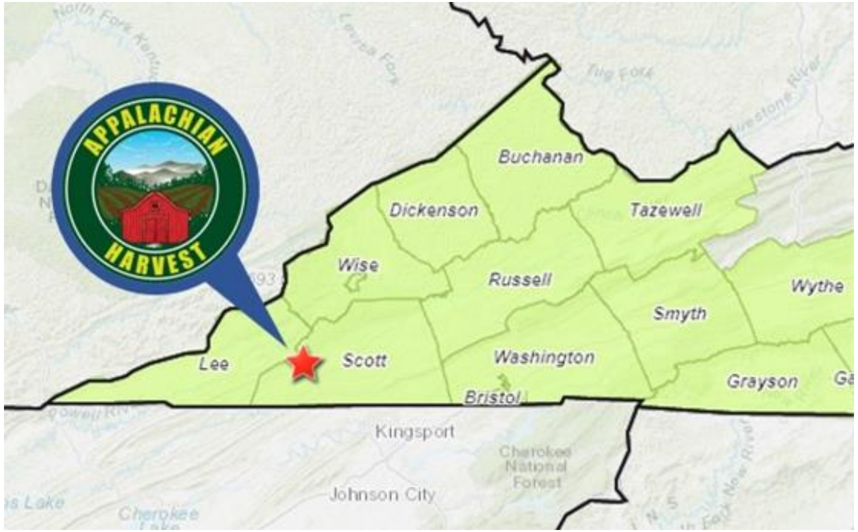

Appalachian Harvest Herb Hub™

Est. 2017 Duffield, VA

Appalachian Harvest Herb Hub

OUR VISION

Appalachian Sustainable Development envisions a thriving and sustainable herbal economy in Central Appalachia, where plant conservation is achieved through cultivation. The Appalachian Harvest Herb Hub in Duffield, VA is a shared use facility that helps medicinal herb farmers sustainably grow, harvest, process and sell forest botanicals and field grown herbs to premium markets.

HOW WE CAN HELP YOU

Trainings

Workshops on propagation, processing, certifications and more to guide you from seed to sale

Cost-Share

Limited funding available for planting stock and certifications that offer premium market access

Processing

Commercial washing, drying, and resizing equipment to reduce costs and increase efficiencies

Marketing

Aggregation and marketing services to meet volume minimums and connect with premium markets

GET INVOLVED. CONTACT US!

Phone: 276-623-1121
Email: rsuggs@asdevelop.org
Web: https://asdevelop.org/herbhub

APPALACHIAN sustainable DEVELOPMENT
LIVING BETTER. LOCALLY

ABFFC Trainings

Annual hands-on forest farming training across Appalachia

Site Visits

On farm technical assistance, site assessments & best practice recommendations

FARM Mentorship

200-hour on-farm internship with an experienced forest farming mentor

Appalachian Harvest Herb Hub

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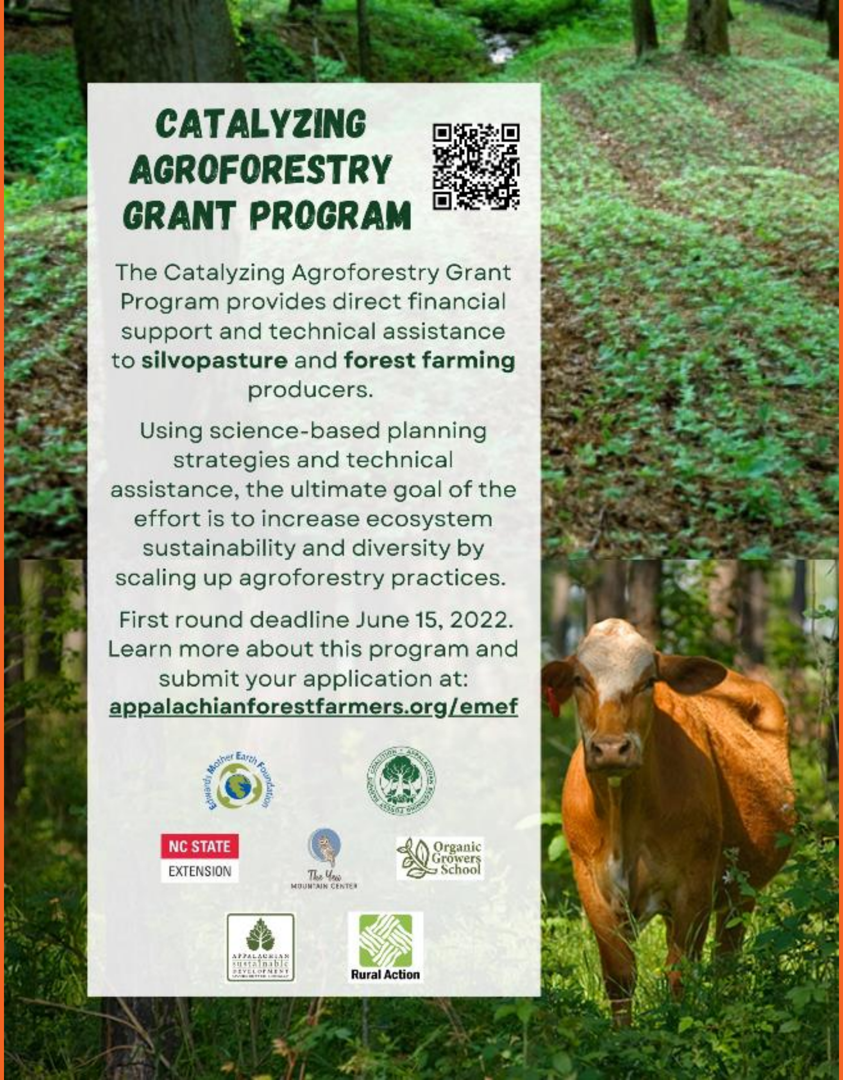
LIVING BETTER. LOCALLY

Producer Mini-Grants

Cost-share to offset start-up costs



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LIVING BETTER. LOCALLY

Root Washing

Drying

Milling

Appalachian Harvest Herb Hub

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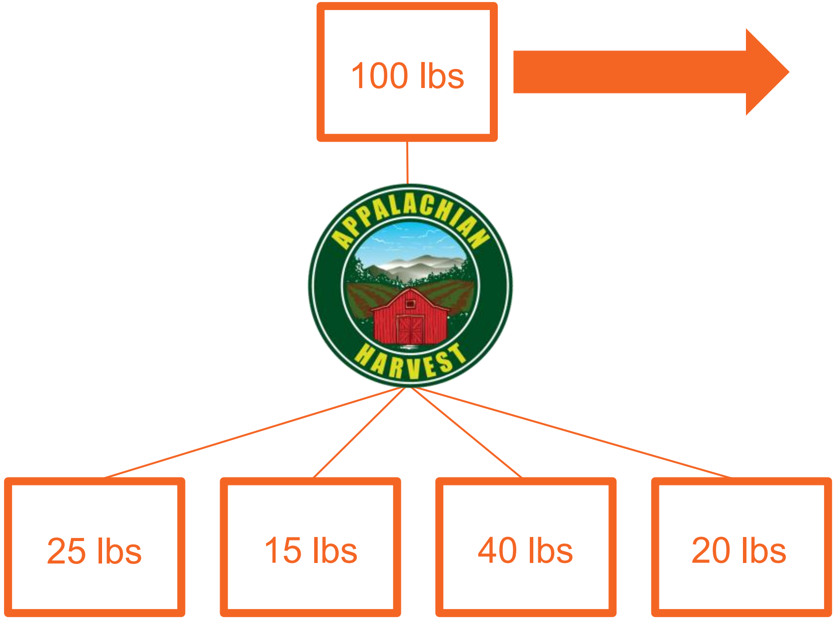
APPALACHIAN sustainable DEVELOPMENT
LIVING BETTER. LOCALLY

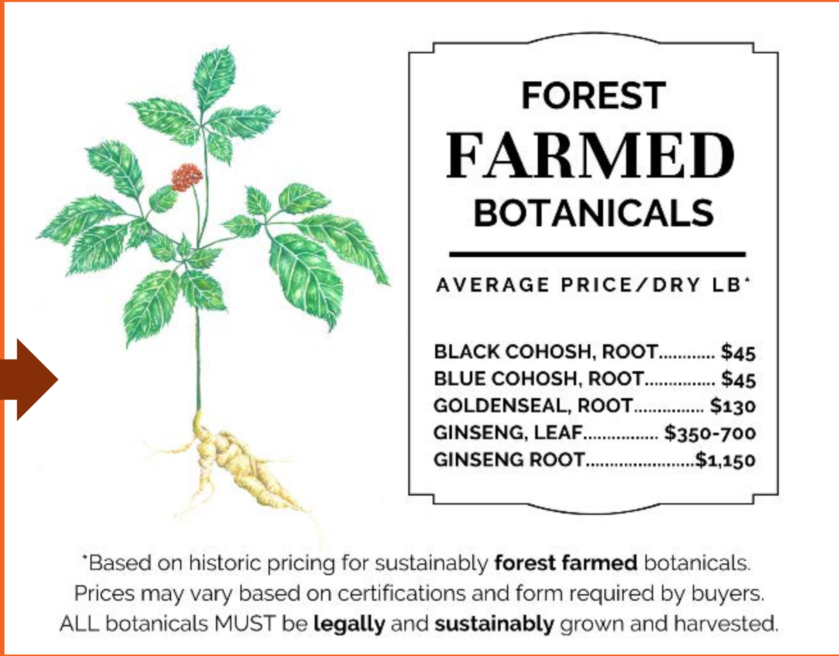
Aggregation



Farmer network harvests for advanced purchase orders and contract farming agreements

Average **Wild Harvested** Prices

Herb Hub™ **Forest Farmed** Prices



Impact

Building an equitable market to make forest farming profitable

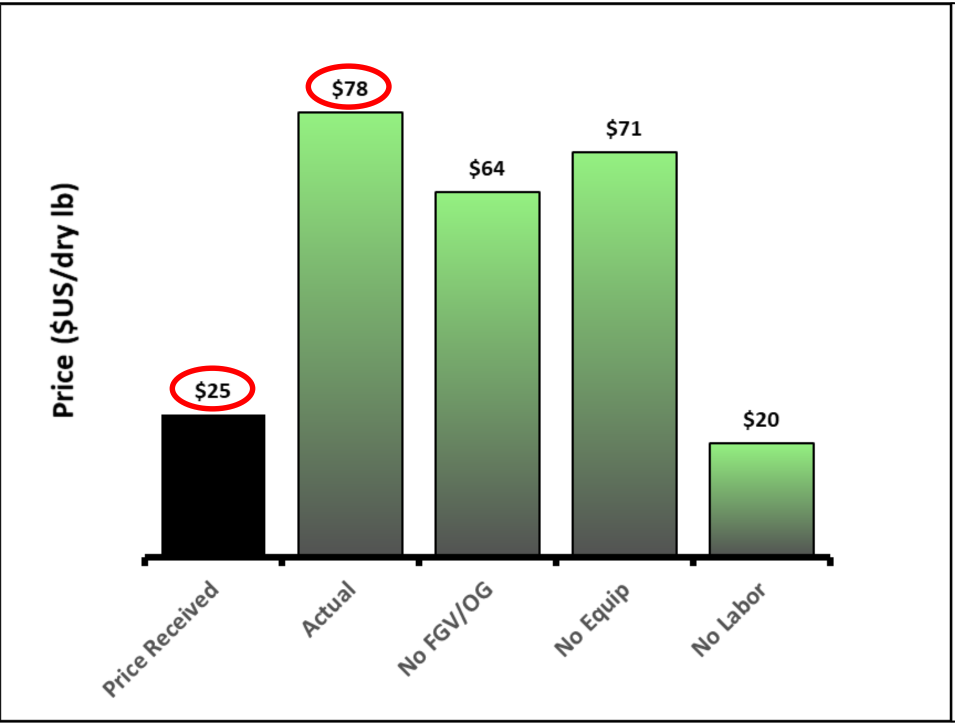
APPALACHIAN sustainable DEVELOPMENT
LIVING BETTER. LOCALLY

"...USING THE **HERB HUB**, WITH ALL THE STREAMLINED PROCESSING AND THE QUALITY OF THE **EQUIPMENT** THEY HAVE, WE WERE BASICALLY ABLE TO **SAVE** AN IMMENSE AMOUNT OF **TIME** AND WE ACTUALLY **MADE MONEY** FOREST FARMING."

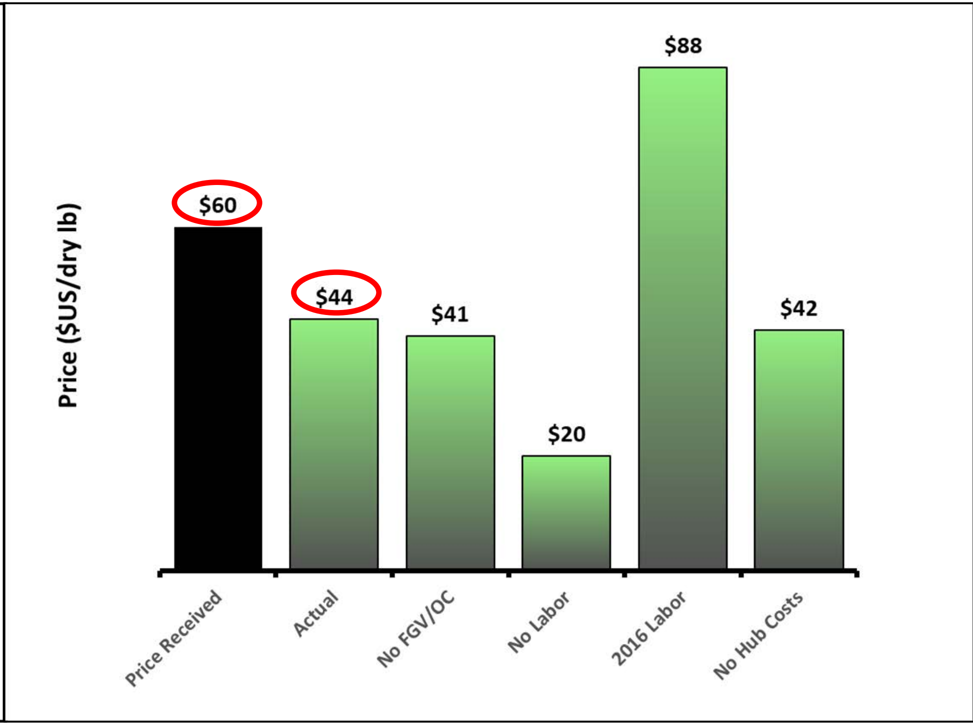
Michelle Pridgen
Windy Hill Farm
#plantingforthefuture

Black Cohosh Case Study

2016 Break Even Prices



2017 Break Even Prices



HERB HUB ASSOCIATE

PART TIME | DUFFIELD, VA

Visit **https://www.asdevelop.org/about-us/job-openings/** for a job description and application instructions.

Questions?

APPALACHIAN
sustainable
DEVELOPMENT
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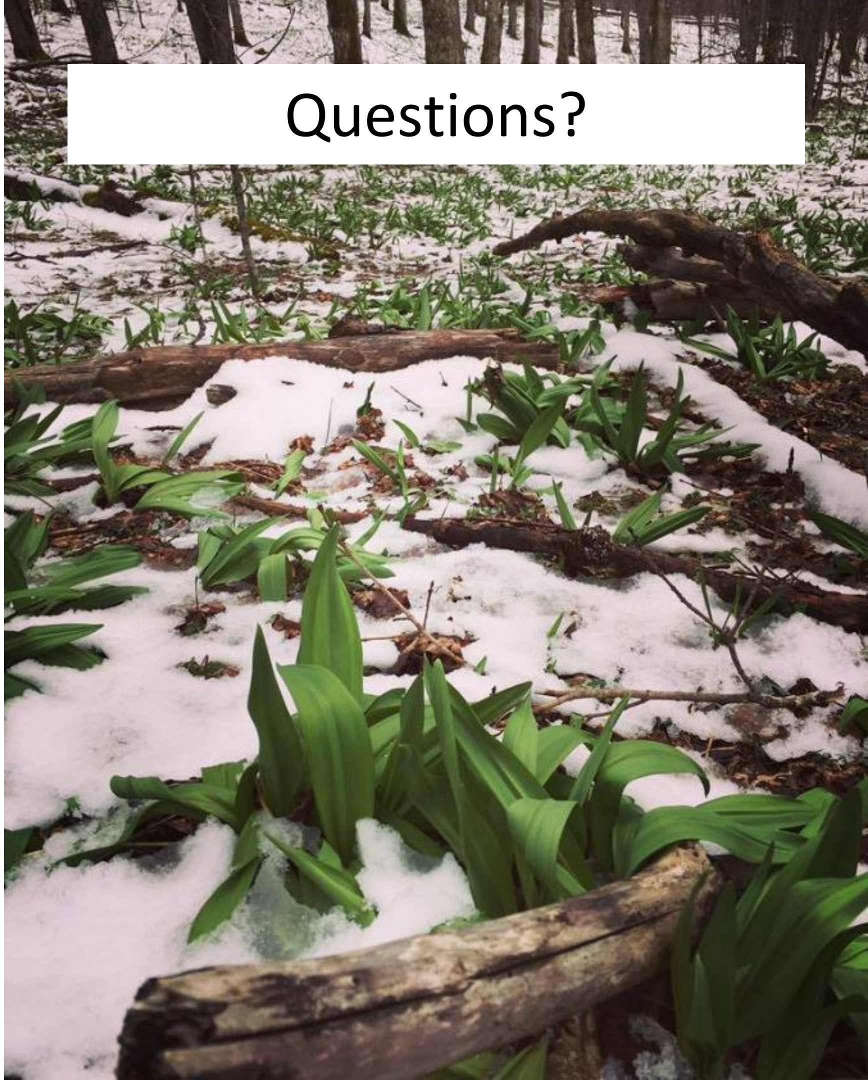
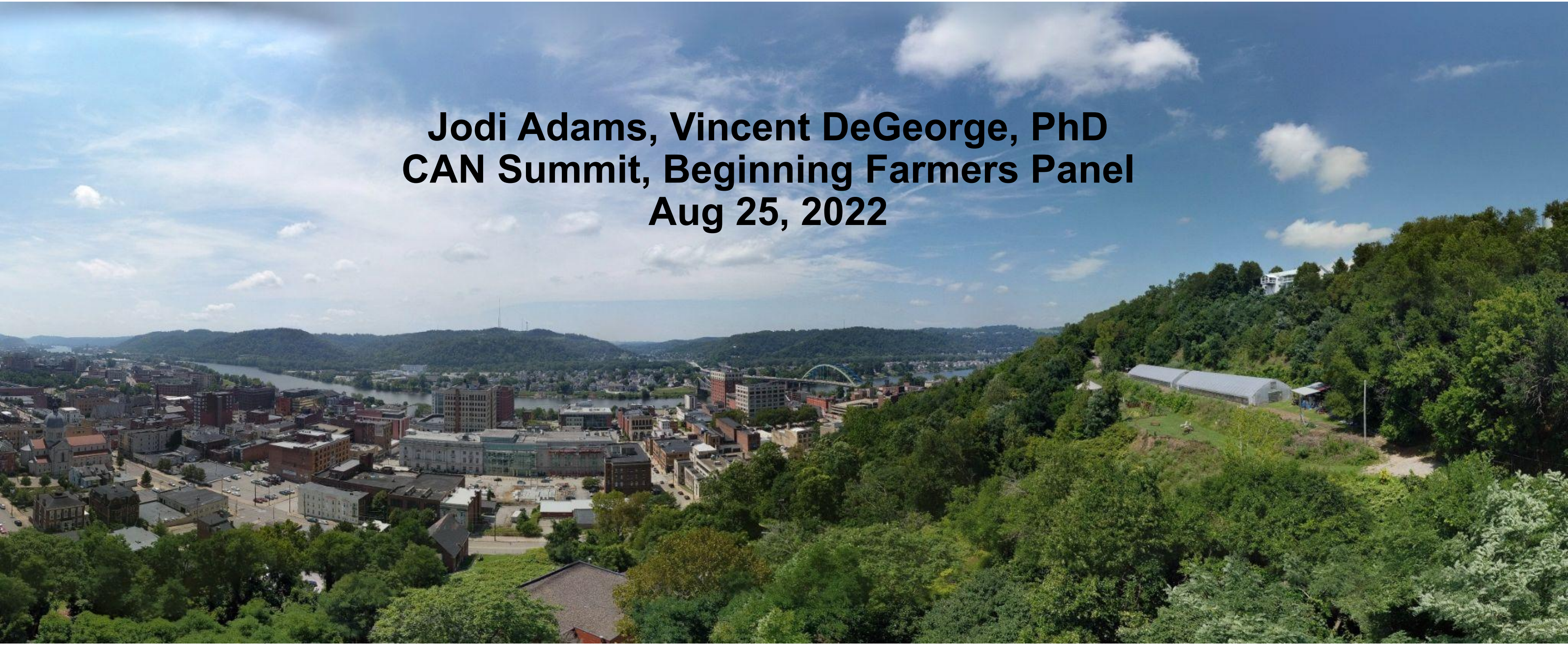
Katie Commender
Email: kcommender@asdevelop.org
Phone: 276-623-1121

Fundraising Campaign: gofundme
https://www.gofundme.com/plantingforthefuture



Grow Ohio Valley:
Where Local Food is a Way of Life



Jodi Adams, Vincent DeGeorge, PhD
CAN Summit, Beginning Farmers Panel
Aug 25, 2022

Outline

It’s an honor to be here.

- Intro & Background
- GrowOV Overview
- Urban Farms
- Education Programs
- *BWAC - 25 Acre Rural Farm Incubator
- *Edible Mountain Community Health Coalition
- <u>Public Market Grocery Store</u>
- <u>*Wheeling Food Hub Project</u>

GROW OHIO VALLEY

*Start-up phase projects

Public Market

Intro & Background

Jodi is from the Ohio Valley, growing up in Shadyside, OH. After attending The Ohio State University in Columbus, OH, Jodi went on to build a career in multi-store/business in the retail and restaurant industries. In her last few roles, she has led the process to scale brands from the start up phase to established businesses. Jodi plays a dual role at Grow Ohio Valley, acting both as the General Manager of The Public Market and the Chief People Officer of the organization. Her passion lies in driving results through the development of people and their leadership skills.

Jodi Adams
marketmanager@growov.org

Vincent DeGeorge, PhD
vincent@growov.org
wheelingfoodhub@growov.org

Dr Vincent DeGeorge is a lifelong West Virginian and since 2018 has been with Grow Ohio Valley where he is currently the Site Operations Director & Wheeling Food Hub project lead. Vincent's pursuit of community impact, opportunity, and innovation spans a scientific research background in advanced magnetic materials (PhD from Carnegie Mellon University and R&D in LA's aerospace hub), environment- and peace-focused advocacy and freelance writing (from local media to the front page of the Sunday New York Times), before transitioning into urban farming & local food in the Upper Ohio Valley. Vincent's projects at GrowOV include the 2018 ARC POWER grant opening the Public Market in 2018-19, the Restaurant-to-School COVID meal relief program, and currently the Wheeling Food Hub startup. Vincent also serves at the House of Hagar homeless outreach house and on the Wheeling Human Rights Commission.

Founded 2014 **Wheeling, WV (Upper Ohio River Valley)**

Mission: Build a food system in which farmers flourish and local & healthy food is a way of life.

Vision: We will achieve regional food sovereignty!

Public Market

Grow Ohio Valley - Overview (& Outline)

- Urban Farming, Local Food Start-Up Non-Profit in Wheeling, WV (2014)
- ~20 Staff, ~20 Americorps (Av age 30)
- Offices & Hub/Pack house
- 4 Urban Farm Sites
  - Under-interstate-farm,
  - 2 Greenhouses, 2 High Tunnels,
  - Urban Apple Orchard (350 trees)
- Education - Yurt/Outdoor School
- *BWAC -25 Acre Rural Farm*
- *Edible Mountain Health Coalition*
- Public Market Grocery Store (2019)
- *Wheeling Food Hub Project*

*Start-up phase projects

Urban Farming

Programs

- 2 CSAs (Summer, Winter)
- FARMacy (Sistersville)
- Farm 2 School
- Volunteer Prog 100+ vols
- Popup markets
- Apples - Cider, sauce, etc






Public Market

Hub *Orchard * Meadow * Farm 18 * 14th Street Greenhouse

Education Programs

We design and implement educational programming in service to the mission of Grow Ohio Valley and its partnering organizations.

- Food Justice Immersions
- Food Literacy Reverse Field Trips
- Cooking Classes - Children & Adults
- Hydroponics in Schools
- Grow Appalachia Backyard Gardening
- *Project Tipi & Yurt* - trauma informed education
- *Budding Wheeling* -Youth Flower Farming Entrepreneurship
- Community Volunteer Program:10-50 vols/wk

Big Wheeling Agrarian Center - Farm Incubator



25 Acres - Produce, Grain, Hay, Livestock (Chickens, Pigs, Dairy Cows)

Goals: - FULL-DIET, YEAR-ROUND, LOCAL FOOD FOR FIFTY FAMILIES

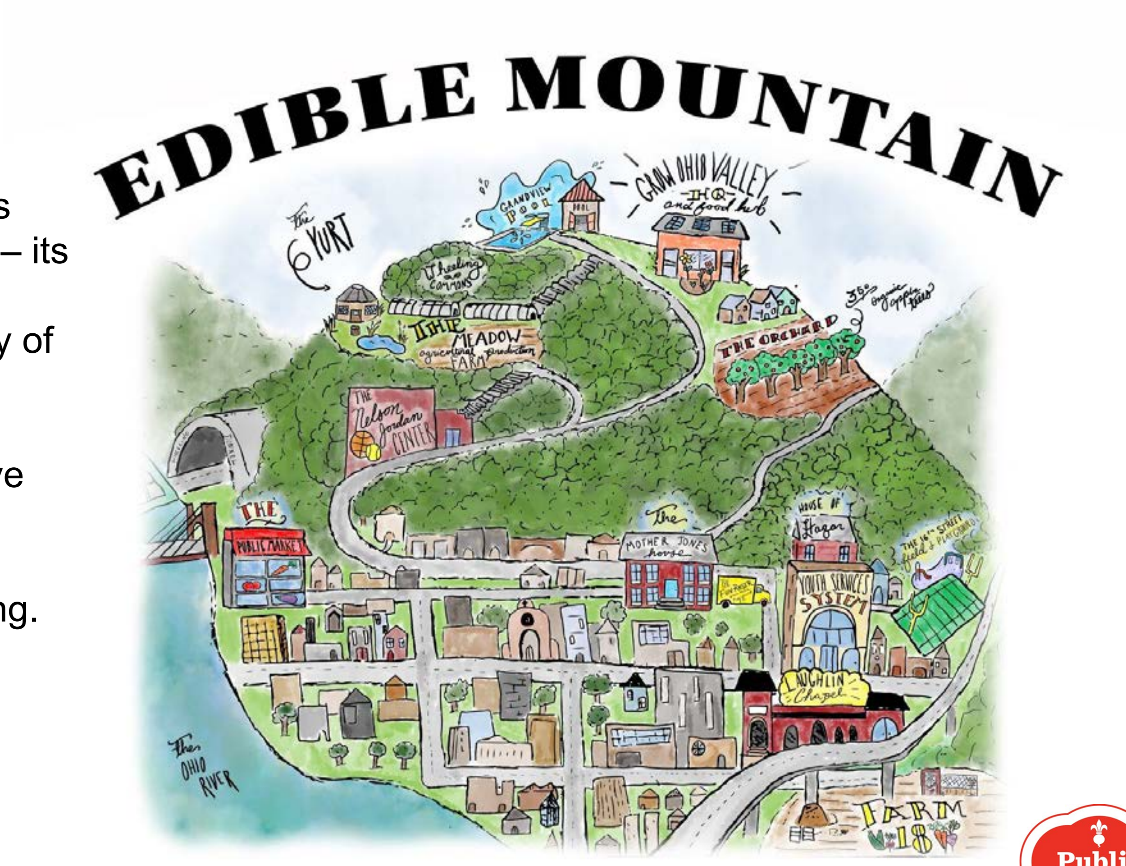
- Incubate the next generation of local farmers!

Edible Mountain - Community Health Coalition

Working to make Ohio County one of the healthiest communities in Appalachia.

- Placemaking - Developing Wheeling’s “Edible Mountain” (ie. Vineyard Hills) – its forests and public spaces – while celebrating the rich community history of this hill.

- Public Health - A public health initiative that promotes evidence-based best practices within six key focus areas known to improve health and wellbeing.



Edible Mountain
PLACE BASED YOUTH WELLNESS

Public Market

Public Market

Markets & Food Access

Public Market - Quick Numbers

2019 - Public Market Opens (just pre-pandemic)

$1,826,257 - sales thus far | ‘22 +30% from ‘21 (188k)

$267,000 - Returned to local farms and vendors

54 - Number of local vendors currently

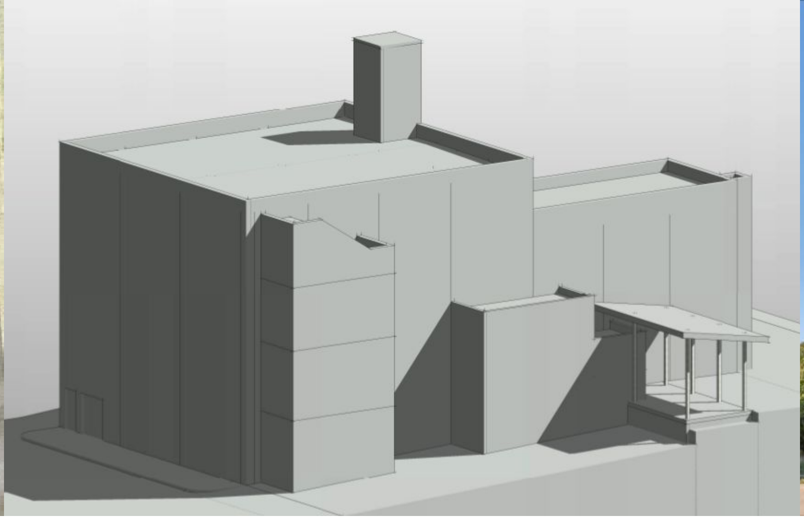
14 - Jobs created

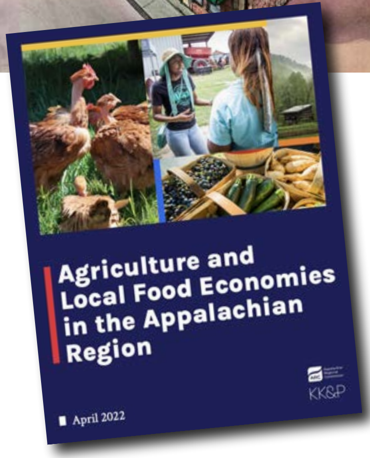
$450,022 - SNAP Sales | $206,353 SNAP Stretch

+40,000 Meals given to local students during COVID
(Restaurant 2 School Meal Relief Program)

The Wheeling Food Hub

Grow Ohio Valley's Local Food Business Accelerator, Shared Commercial Kitchen




Agriculture and Local Food Economies in the Appalachian Region

KK&P

April 2022

Farm Processor Distributor Grocer Consumer

GrowOV & Local Farms

Wheeling Food Hub

Public Market

GrowOV Programs

WFH Progress & Timetable

WFH Steering Committee:

- Vincent, Danny
- Leslie Schaller
- Kacey Gantzer (WVDA)
- Jodi Adams

Potential:

- Farmer 1
- Food Service 1

Planning

2021 Q1: Building Acquisition
WFH Working Group, Feasibility St
Startup Fundraising - ~$900k

Startup

2022 Q1: Feasibility Study Complete, Business Plan Complete, Architectural Report
Major Fundraising Push - ~$2m Q2: WFH Manager Job Posting
Q3: Funding Announcements → Commence Buildout

Opening

Q4: Program Development - Business Development, Marketing, Etc

Operation

Funding Dependent

2023 Q1: WFH Activity (Phasing in)
Q2: WFH Operation - **Phased*
2024 Year 2
2025 Year 3
2026 Year 4
2027 Year 5

*Phase I - Cold Storage Cross docking
*Phase II - Offices, Basic Kitchen
*Phase III - Full Kitchen, Product Dev, Etc
Self-Sustaining Shared Food Hub & Business Accelerator

Grateful Acknowledgement

- Benedum Foundation
- Appalachian Regional Commissions
- Hess Family Fund
- Senators Capito & Manchin
- CCHD
- Congregation of St Joseph
- USDA - Rural Development, etc
- City of Wheeling
- WV DEP

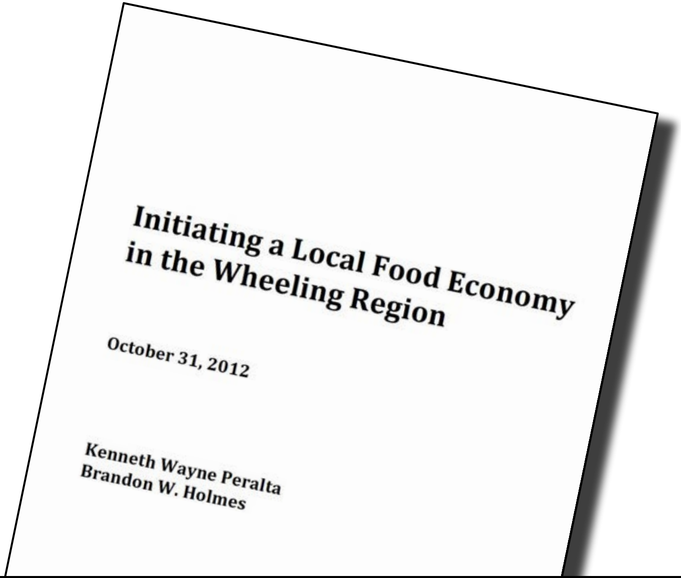
Thanks CAN!

GROW OHIO VALLEY

Vincent DeGeorge
vincent@growov.org

Jodi Adams
marketmanager@growov.org

Story of Grow Ohio Valley



Initiating a Local Food Economy in the Wheeling Region

October 31, 2012

Kenneth Wayne Peralta
Brandon W. Holmes

Outline

- Intro & Background
- GrowOV Mission & Story
  - **Farm, Market, Education**
- Regenerative Agriculture
  - Urban Revitalization
    - Market
    - Orchard
    - Meadow
  - Future

GROW
OHIO
VALLEY

Outline

- Intro & Background
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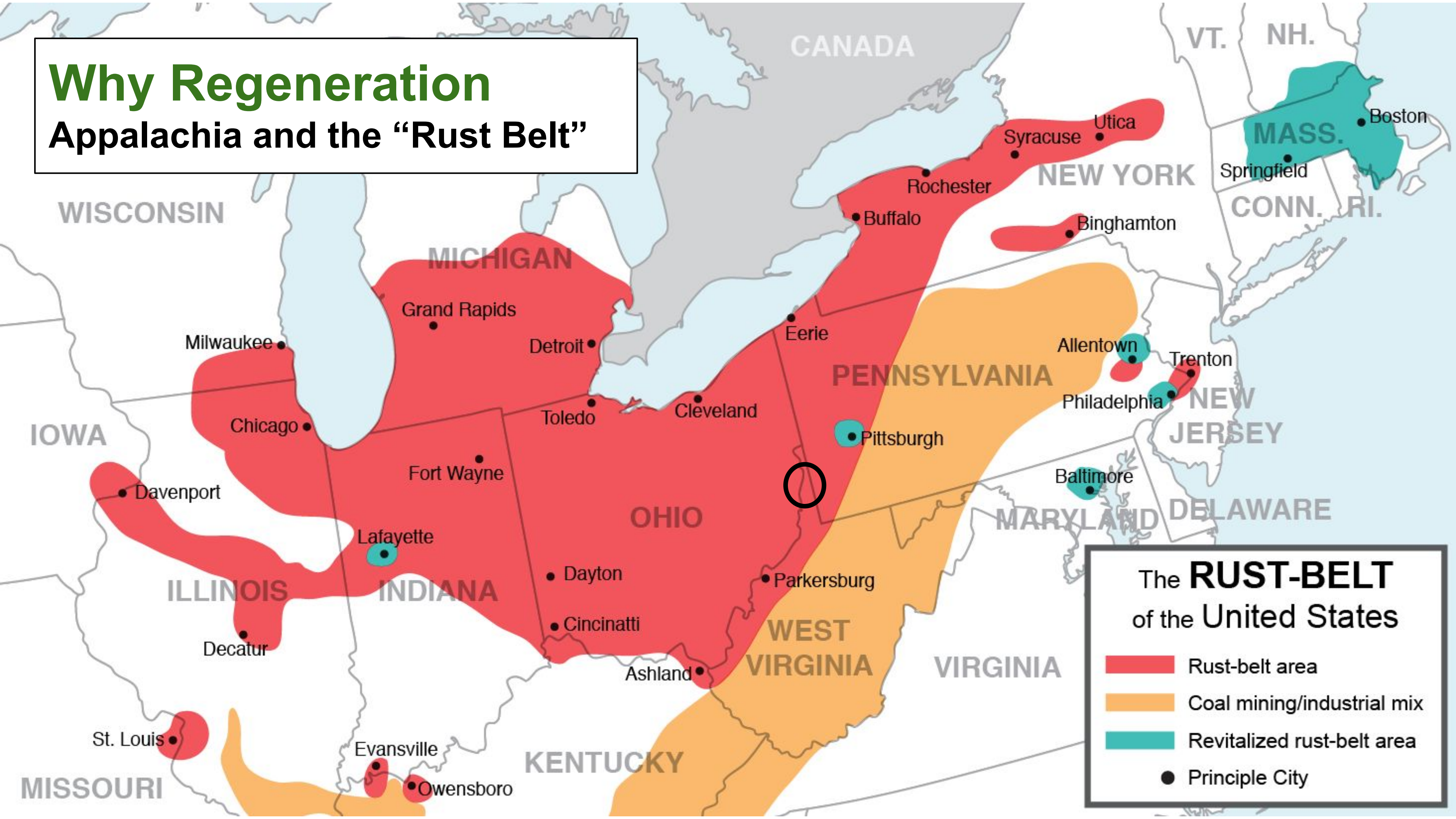
Why Regeneration

Appalachia and the "Rust Belt"



Why Regeneration

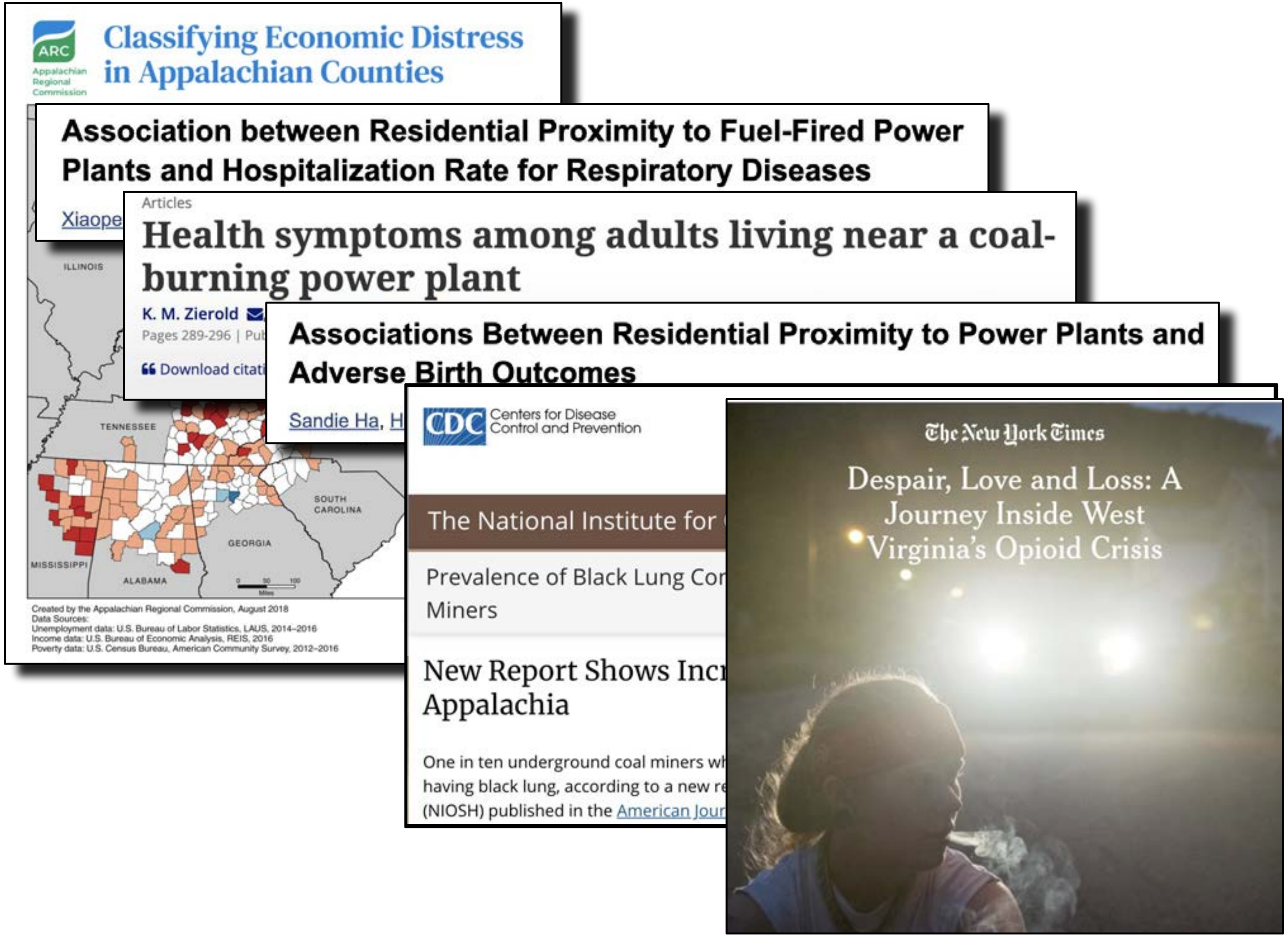
Consequences in:

Economy

Environment & Safety

Health

- Addiction
- Food security



Agriculture & Local Food as a counterbalance to the effects of extractive industry.

__Puts in__ or *__adds__* to Community Health, Environment, Local Economy!

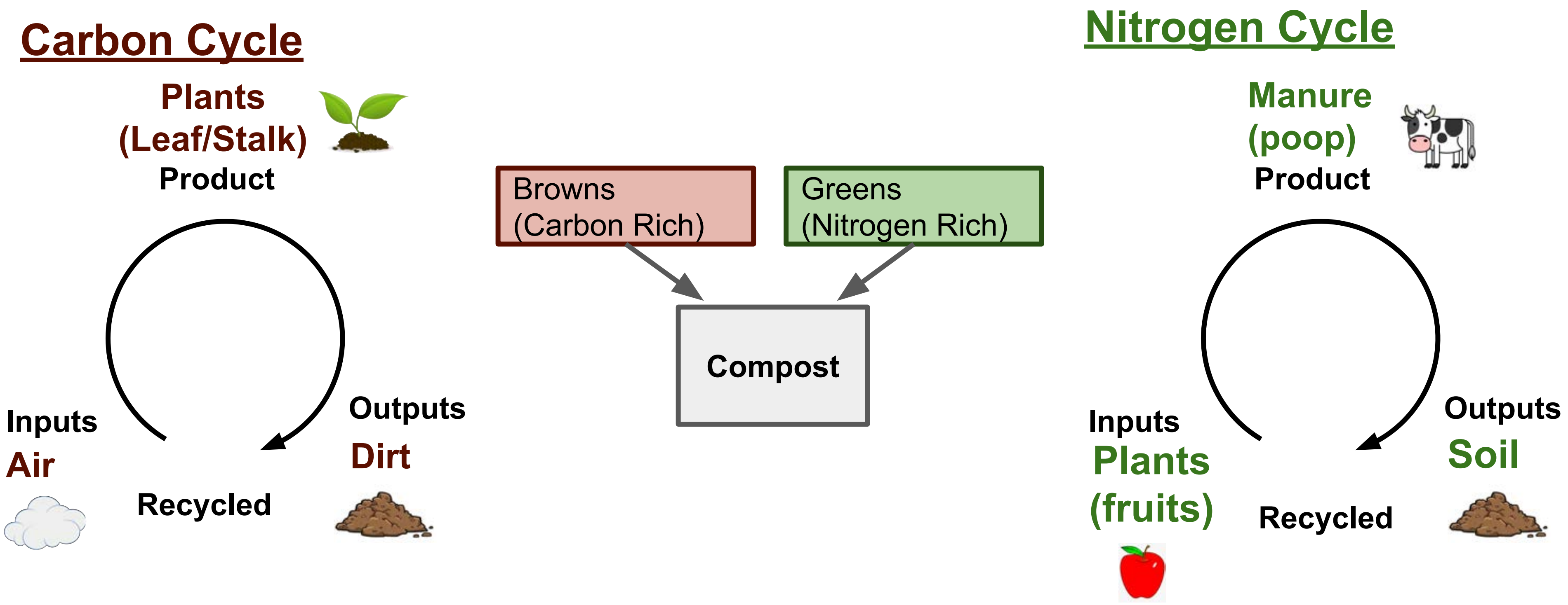
Outline

- Intro & Background
- GrowOV Mission & Story
  - Farm, Market, Education
- **Regenerative Agriculture**
  - Urban Revitalization
    - Market
    - Orchard
    - Meadow
  - Future

Regenerative Agriculture

Soil Health & Composting

Follows Natural Circular Economies



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  - Farm, Market, Education
- **Regenerative Agriculture**
  - **Urban Revitalization**
    - Market
    - Orchard
    - Meadow
  - Future

Urban Regeneration

Earth Oven & Railroad Tie Structure

Roof/Structure: Railroad Ties
“Urbanite” Base: Foraged Brick
Cob Oven: Clay, Sand, Straw

Outline

- Intro & Background
- GrowOV Mission & Story
  - Farm, Market, Education
- Regenerative Agriculture
  - **Urban Revitalization**

    Orchard

    Public Market

    The Meadow

    GrowOV Future

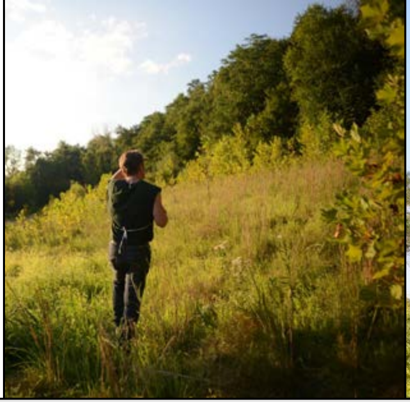
The *Vineyard Hills* Orchard

Vineyard Hills Public Housing - 1937

Demolished in the 1990's

Now urban orchard:
300+ trees
Apples, pear, peach

The *Lincoln* Meadows



Lincoln Meadows Public Housing 1960’s

Housing Demolished 1990’s

Vacant/unused for +20 years

GrowOV The Meadow - 2015

The
Intermodal Center
Public Market

Intermodal Center Parking Garage - 1998

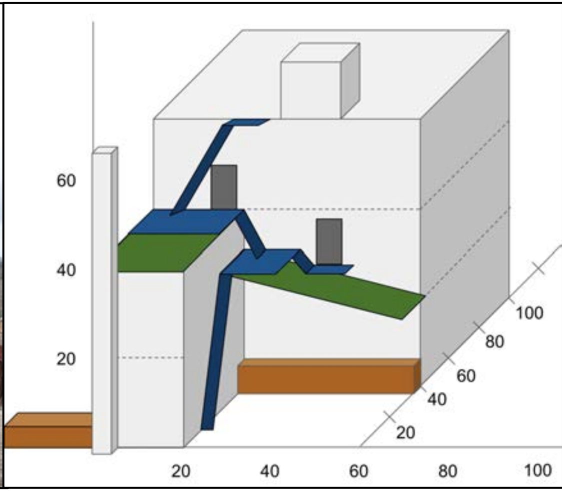
Greyhound bus station until - 2011

Vacant/unused for 8 years

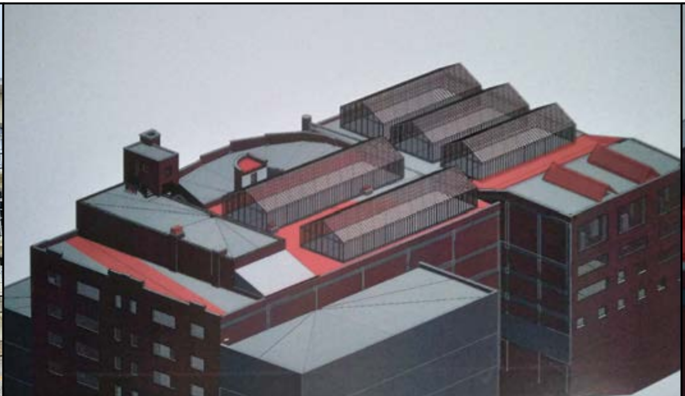
GrowOV Public Market Grocery - 2019

Future Opportunities in Urban Agriculture

Future 17th St HQ & Hub



12th Street Garage Possibilities



May 11, 2019 - FreshWater Accountability's first Better Vision for the Valley

A lot has happened in 2 years…

> **ORVI and Roxby were established...**
> **Grow Ohio Valley has GROWN!**

Summary

GROW
OHIO
VALLEY

Thank you

Rural Action

Thriving Communities, Healthy Environments

Molly Sowash: Sustainable Agriculture Manager

Katie Lloyd: Beginning Farmer Outreach Specialist

Rural Action

Thriving Communities, Healthy Environments

- Serving Appalachian Ohio since 1994 as a membership-based economic development organization focusing on asset-based community development.

- Our **Mission** is to build a more just economy by developing the region's assets in environmentally, socially, and economically sustainable ways.

Program Areas

Rural Action

- <u>**Sustainable Agriculture**</u>
- Sustainable Forestry
- Environmental Education
- Watershed Restoration
- Zero Waste
- Sustainable Energy
- Leadership & Service
- Resilient Communities
- Social Enterprise

Processing, Aggregation, Distribution, and Education

Whole Farm Project

Provides wraparound support for beginning farmers, including:

- Access to capital
- Land Access
- Peer-to-peer mentorship
- Professional services
- Site visits
- Management plans

We aim to uplift the voices of experienced farmers in serving as mentors and peer educators to help build a strong small farm community.

8-Week Winter Whole Farm Business Planning Series (screengrab from Zoom)

Farm/Forest Management Plans and Site Visits

- Accounting Consultations with Candida Stamp
- Access to a lawyer - Jonathan Sowash

Who are we?

You may have noticed I refer to Big Time Bookkeeping as "we."
But mostly Big Time Bookkeeping is me: Candida Stamp.
(My husband Bill is a partner in the business as well,
but he's pretty much a silent partner at this point...
although he is a bookkeeper too.)

We've both lived in Athens since the 1990's,
attending Ohio University and working in various local businesses,
so we know a thing or two about this community.

Here's me taking a walk
around my neighborhood.

(Bill not pictured.)

Ramp Cultivation Workshop at United Plant Savers

Mushroom Inoculation Workshop with Rural Action Sustainable Forestry Program

Webinar Series with ACEnet (Appalachian Center for Economic Networks)

Beekeeping Workshop Series with Central State University

Whole Farm Field Days (Peer to Peer farm learning experiences)

Zero-Interest Micro Loans through KIVA

Kiva Lending Team: Rural Action

A Businesses team since Jun 4, 2018

ABOUT | LOANS 103 | MEMBERS 9 | GRAPHS | IMPACT

Rural Action

We loan because...
We want to see small businesses and entrepreneurs grow and succeed in Appalachian Ohio.

About us
We are members, staff, AmeriCorps alumni, volunteers, and supporters of Rural Action, who want to show the collective impact of our support to small businesses in Appalachian Ohio.

Location: The Plains, OH   Team website

- Example: Farmer mentor with $10,000 loan for equipment for his farm

REAP (Rural Energy for America Program) Grant Writing Assistance

Access to Land

Incubator Farm at Chesterhill Produce Auction

Silvopasture Support

Who are your essential partners in the agricultural space?

Mentimeter

senior centers volunteers
school food authorities
state gov't aspirational
networks including can
community members
cooperatives
local tech company
veteran farmers
community foundations
county commissioners
local health care
local churches
state dept of ag
folk with local skills
local non-profits
other nonprofits
food banks
churches
procuers
workers
small businesses
nrcs
schools
state agencies
local government
volunteers
local gov't aspirational
staff
farmers
oeffa
local chefs
community
universities
extension
black farmers
summer feeding sites
land trusts
systems thinkers
indian tribal orgs
farmers markets
swcds
federal and state agency
nonprofits
preschool programs
youth programs
private philanthropy
local food professionals
garden volunteers
farmers market
local businesses
parks systems
community gardens
senior meal sites
cattlemen's associations
wv dept pf agricultire
higher education
federal government
county government
ecological community

17