Introduction to Forest Farming

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George E. & Hester B. Aker Fellowship

Objectives Today…

What – Define forest farming; crops and products

Who – Get to know you

Who/When/Where – History of forest farming

Why (and Why Not) – Benefits and challenges of forest farming

How – Getting started!!

What is Forest Farming?

What is Forest Farming?

The cultivation or management of specialty crops / understory plants in an established or managed forest.

Agroforestry

Tree-based agriculture

WHO is a Forest Farmer?

- **Who here is practicing Forest Farming?**

  Where are you located?

  What are you farming?

- **Who here knows a Forest Farmer?**

  Where are they located?

  What are they farming?

StoneRoot Farm, Floyd VA

- Woods-grown shiitake mushrooms
- Wild-simulated ramps
- Forest farmers

WHO/WHEN/WHERE?
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Hazelnut


Paw Paw


Persimmon


Ground Nuts

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Forest farming is <u>not</u> new…but the SCIENCE is! (young, undeveloped, and full of questions)


WHAT can you farm in you woods?

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Non-Timber Forest Products

NTFPs

Non-Timber Forest Products NTFPs

- Originate from forest plants and fungi, not timber-based, may be tree-based
- Fungi, moss, lichen, ground covers, herbs, shrubs, trees
- Roots, tubers, leaves, barks, twigs, fruits, fungi, sap and resin, wood
- From within and on edges of natural, manipulated or disturbed forests

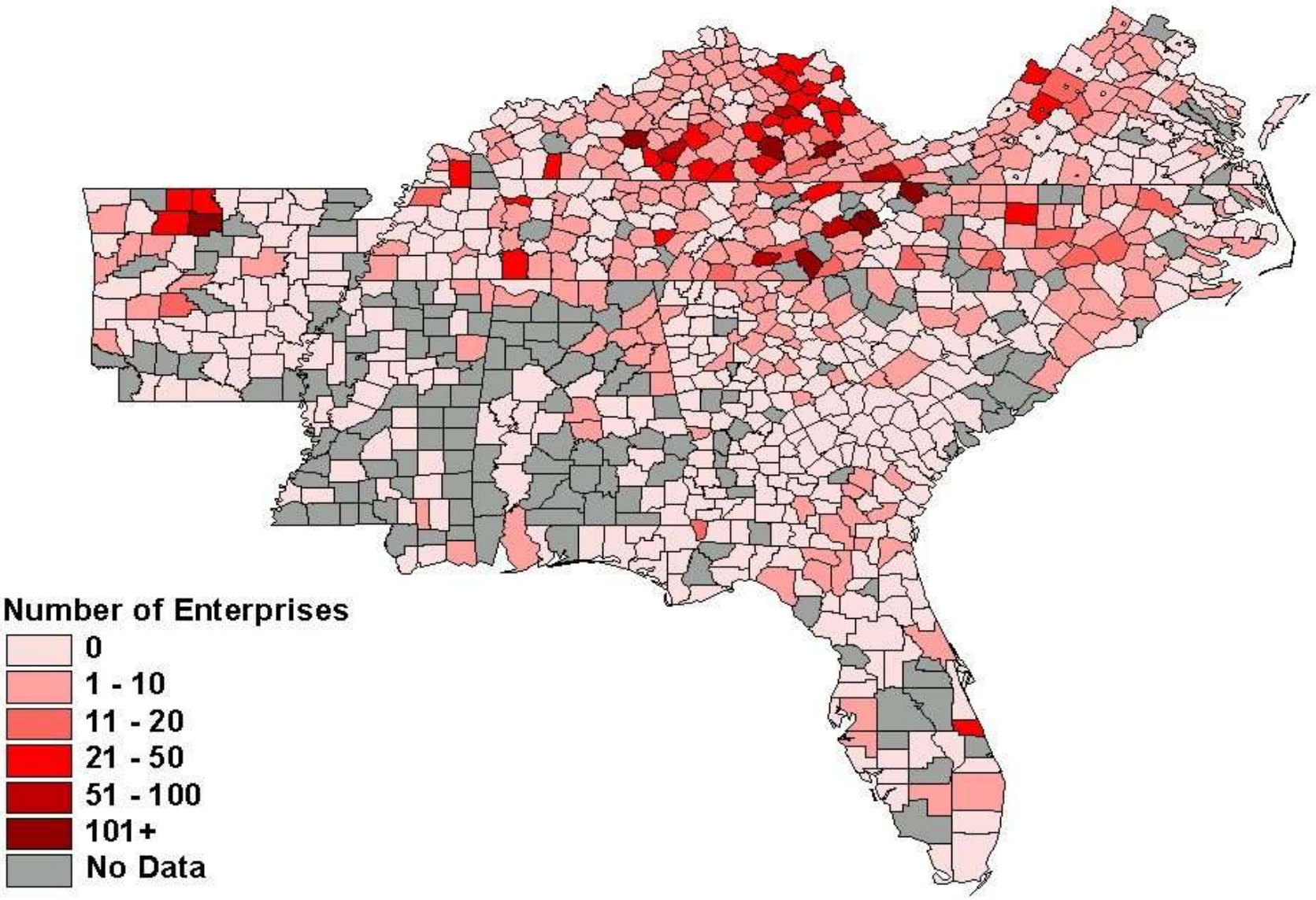
Categories of NTFPs

- Medicinal / dietary supplements
- Edible / culinary
- Floral / decorative
- Crafts

Medicinal / Dietary Supplements

- Ginseng
- Goldenseal
- Black cohosh
- Blue cohosh
- Blood root
- Basswood
- Slippery elm
- False unicorn
- *and MANY more*

NTFP Enterprises - Medicinal Products

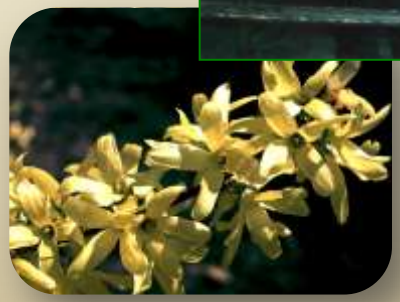


Edible / Culinary

- **Mushrooms** – shiitake, oyster, lion's mane
- **Vegetables** – ramps (wild onions)
- **Nuts** – acorn flour (gluten-free)
- **Syrups** – maple, walnut
- **Honeys**
- **Fruits**

Decorative

- Florals
- Landscaping
- Greenery
  - Red-twig dogwood
  - Forsythia
  - Moss
  - Pine straw



Crafts

- Vines
- Branches
- Cones
- Foliage
- Bark
- Roots
- Burls
- Culls


WHY consider Forest Farming?

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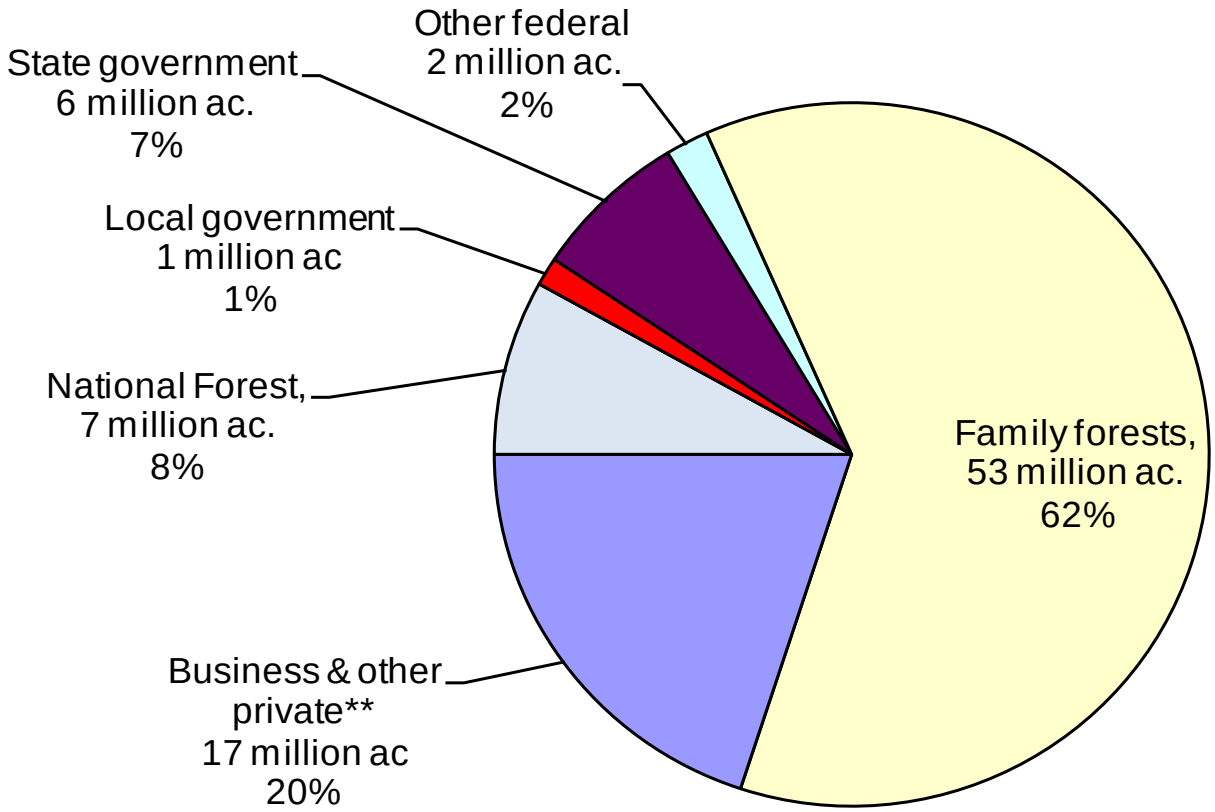
- Increase acreage of managed woodlands

Appalachian Region Landownership



** Includes corporations, non-family partnerships, tribal lands, non-governmental organizations, clubs, and other non-family private groups.

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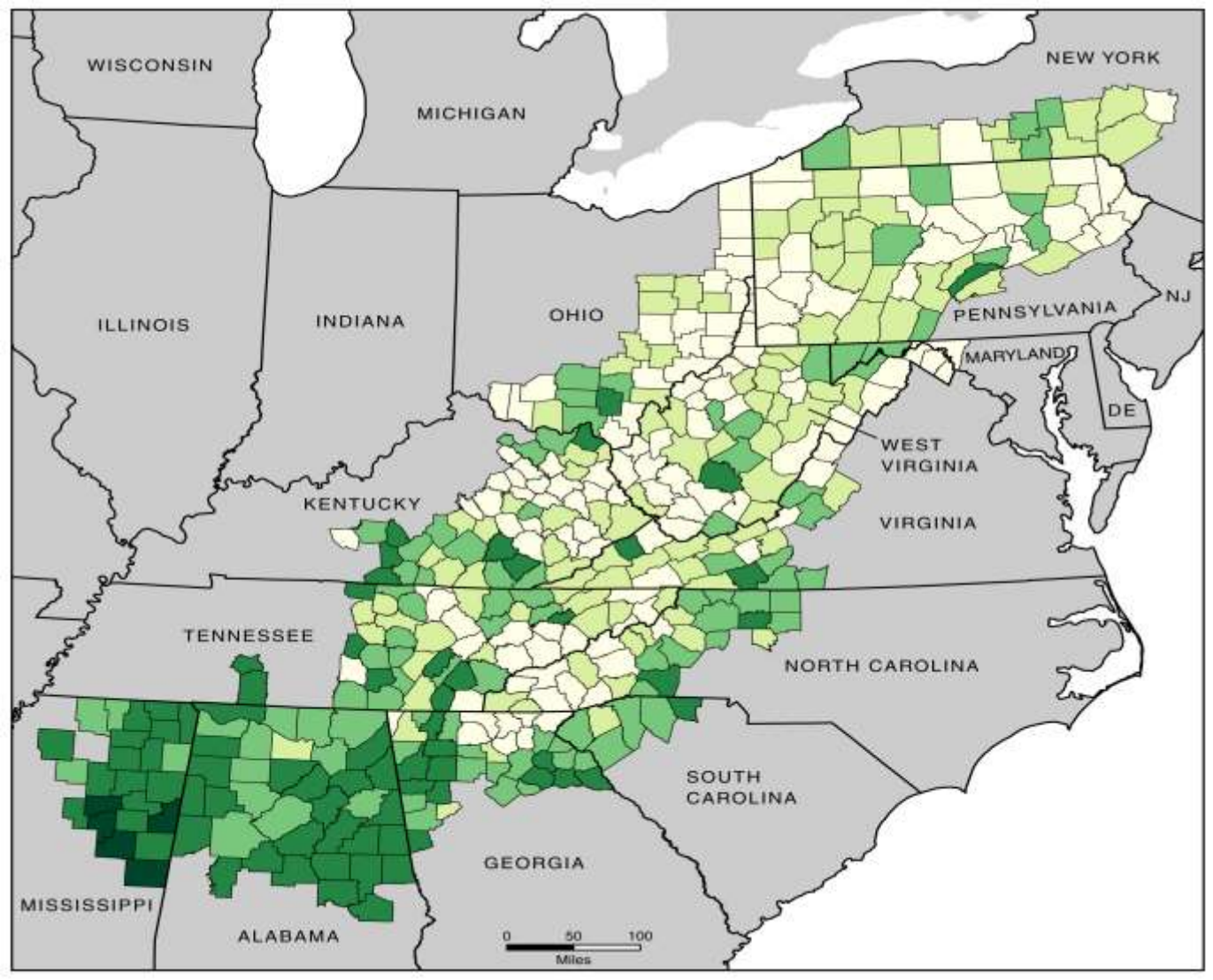
- Alternative to cutting trees

Low Volume Removals



Percent of All Live Volume Removed

(Cubic feet of total wood material removed as a percent of all live volume on forested land)

- **Greater than 5**
- **2.1 to 5.0**
- **1.1 to 2.0**
- **0.5 to 1.0**
- **Less than 0.5**

Source: U.S. Forest Service.

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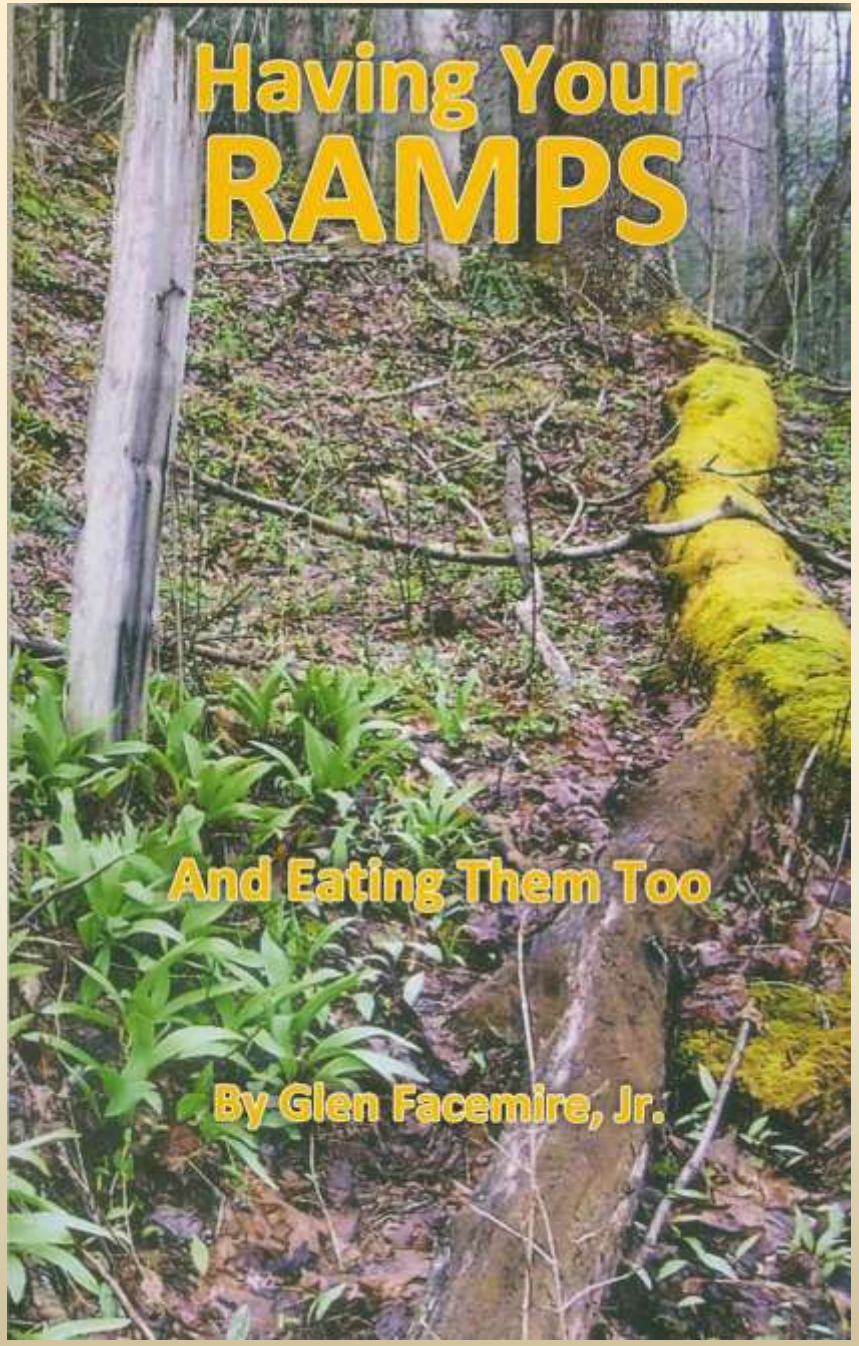
Sustainable
Ginseng
Madison Woods


Having Your
RAMPS
And Eating Them Too
By Glen Facemire, Jr.

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1

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Allows landowners with a patch of forest to grow useful plants and not have to cut timber to make money


WHY NOT consider Forest Farming?

WHY NOT?
Challenges of Forest Farming

- More intensive management
- Task of learning new skills may be daunting
- Markets can be hard to find and navigate
- Economics – initial capital investment can be high
- Risk – wildlife pressure, poaching

APPALACHIAN OUTLAWS


HOW to Farm Your Forest?
Getting Started!

Getting Started!

- Site assessment
- Personal assessment
- Market assessment
- Resources

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(Site Assessment)

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Plants Associated with Ginseng and Goldenseal

Scientific Name	Common Name	Association
Adiantum pedatum	Maidenhair Fern	39%
Sanguinaria canadensis	Bloodroot	36%
Botrychium virginianum	Rattlesnake Fern	35%
Caulophyllum thalictroides	Blue Cohosh	29%
Galium triflorum	Bedstraw	27%
Prosartes lanuginosa	Yellow Mandarin	27%
Actaea racemosa	Black Cohosh	27%
Aristolochia macrophylla	Dutchman's Pipe	26%
Osmorhiza claytonii	Sweet Cicely	25%
Viola canadensis	Canadian Violet	25%

Source: Kauffman, G. NFNC

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Find out what you want!
(Personal Assessment)

- Time you want to devote
- Money you want to spend
- Income you need to make
- Interests
- Long-term goals for your forest

2 Ways to Farm Your Woods

Woods Cultivated

- Higher inputs/costs; lower price point
- Higher yield/acre; more predictable
- Shorter rotation
- Less natural

Wild Harvesting/Wild Simulated

- Lower inputs/costs; higher price point
- Lower yield/acre; more uncertain
- Longer rotation
- Mimics nature

RAMPS

Woods Cultivated

Wild- Simulated

GINSENG

Woods Cultivated

Wild- Simulated

Woods Cultivated

TABLE 8

Projected Six-year Budget for One-half Acre of Woods-cultivated Ginseng

Seed:	24 pounds at $65/lb.		$1,560
Labor:			
	Site preparation and planting: 300 hours x $10/hr.	$3,000	
	Care and Maintenance 1,000 hours x $10/hr.	$10,000	
	Harvesting seeds and roots: 650 hours x $10/hr	$6,500	$19,500
Materials and Equipment:			
	Chemicals (primarily fungicides but also rodenticides, herbicides, insecticides, fertilizer, gas and oil	$1,000	
	Rear-tined tiller for bed preparation:	$1,000	
	Backpack sprayers: 2 x $125	$250	
	Garden seeder:	$75	$2,325
Drying:			
	Addition of insulation and drying racks to existing room or shed	$600	
	Energy cost to heat (50¢/lb. of dried root)	$150	$750
Total Cost:			$24,135
Expected Yield: 300 pounds of dried roots			
Gross Profit: 300 lbs. x $100/lb.			$28,000
Net Profit at End of Nine Years:			**$5,865**

Wild- Simulated

TABLE 4

Projected Nine-year Budget for One-half Acre of Wild-simulated Ginseng

Seed:*	12.5 pounds at $80/lb.		$1,000
Labor:			
	Site preparation and planting: 25 hours x $10/hr.	$250	
	Inspection and troubleshooting: 200 hours x $10/hr.	$2,000	
	Digging roots: 350 hours x $10/hr.	$3,500	$5,750
Materials and Equipment:			
	Rake, pulaski, and digging tool (assume some equipment already on hand)	$50	
	Backpack sprayer, disease, and pest controls on hand for troubleshooting	$300	$350
Drying:			
	Addition of insulation and drying racks to existing room or shed	$400	
	Energy cost to heat (50¢/lb. of dried root)	$40	$440
Total Cost:			$7,540
Expected Yield: 80 pounds of dried roots			
Gross Profit: 80 lbs. x $350/lb.			$28,000
Net Profit at End of Nine Years:			**$20,460**

**The per pound price of seed varies with quality and quantity, and from year to year with supply and demand. The best seed comes from disease-free gardens of fifth-year and older plants. There are roughly 7,000 seeds in a pound. A successful grower may eventually produce his own seed.*

Source: Persons & Davies, 2005

Planting Wild-Simulated

Source: Persons & Davies, 2005

Find your Market!

(Market Assessment)

- Farmers markets
- Local chefs
- Health food stores
- Florists
- Aggregators

Get out and visit these places, talk to people, find out what's needed – discover your niche

Markets

- **Medicinals** – popular, high demand, US and international markets, good price point
- **Edible/Culinary** – everyone eats!!!, local food markets, organic possibilities, native plants, processing increases value
- **Decoratives** – popular, local and regional markets, seasonal
- **Crafts** – must add value!!!, local and regional markets, open to the imagination

Resources

- Websites
- How-to-videos
- Extension publications
- Books

- Networking – blogs, Facebook, etc.

Websites

- *Virginia Cooperative Extension*
  http://www.extension.org/forest_farming
- *USDA National Agroforestry Center*
  http://www.unl.edu/nac/forestfarming.htm
- *The Center for Agroforestry*
  http://www.centerforagroforestry.org/practices/ff.php
- *Association for Temperate Agroforestry*
  http://www.aftaweb.org/forest_farming.php
- *Non-Timber Forest Products Information Exchange*
  http://www.ntfpinfo.us/

Thank You!

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https://www.facebook.com/StoneRootFarm

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