

Forest Farming



John Munsell
Virginia Tech

Overview – Manual Content Advantages and Challenges Case Network and Resources





Forest Farming
Intentional
NTFPs
Personal use and/or market sales
Canopy
Optimal site

CONSERVATION
CLASSICS



TREE CROPS

♦ ♦ ♦

A PERMANENT AGRICULTURE

by
J. Russell Smith

Introduction by
Wendell Berry



Toyohiko Kagawa

“If we think of ourselves as a race, a nation, a people that is to occupy its country generation after generation, we must change some of our habits or we shall inevitably experience the steadily diminishing possibility of support for man.” John Russell Smith



Wildharvesting

Non-timber Forest Products

Medicinal

Edible

Floral and Decorative

Specialty



Medicinal

Nutraceutical
Holistic
Ethnobotanical

Wood (cedar oils)
Bark (slippery elm)
Buds (cottonwood)
Leaves (catnip)
Roots (goldenseal)
Fruit/flowers (St. John's Wort)
Pollen (ash)



Edible



Mushrooms

Nuts

Honey

Syrup

Fruit, leaves, roots of plants and ferns

Berries for jams, jellies, juices, wines



Floral and Decorative

Greenery (galax)

Tips (balsam fir)

Berries (holly)

Flowers (rhododendron)

Straw and cones (pine)



Specialty



In many cases, mature and high-value markets...

2011 consumer sales of herbs and botanicals in the U.S. reached \$5.28 billion, raw materials \$500 million – Nutrition Business Journal

Aggregate annual value of NTFP harvests in North America likely runs in the tens of billions of dollars – McLain and Jones (2005)



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Often also informal and imperfect, and raw materials heavily harvested in the wild...



Washington Post

@washingtonpost



Md. bans ginseng hunting on state land

wapo.st/12j2bfu

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Post Local

Maryland bans wild ginseng harvest on state land, upsetting diggers

Maryland banned ginseng hunting on state land after a study showed a steep drop in the number of plants.



[View on web](#)

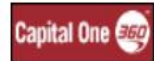
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When Digging for Ramps Goes Too Deep



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Forest Farming Methods

Woods Grown

Wild Simulated

Managed Wild Populations

Woods Grown (machinery; materials; amendments)



Benefits – control, success

Challenges – may impact price, labor, costs

Woods Grown



Wild Simulated



Benefits – inexpensive, less labor, price
Challenges – success, less control

Wild Simulated



A photograph of two individuals in a forest. One person, wearing a dark jacket, blue jeans, and a red cap, stands on the left holding a large machete. The other person, wearing a green jacket and a tan hat, is crouching on the right, examining a plant. The ground is covered with green plants and fallen leaves. The background shows a dense forest of tall trees.

Managed Wild Populations

Forest Management – merger of objectives

Planning

Markets

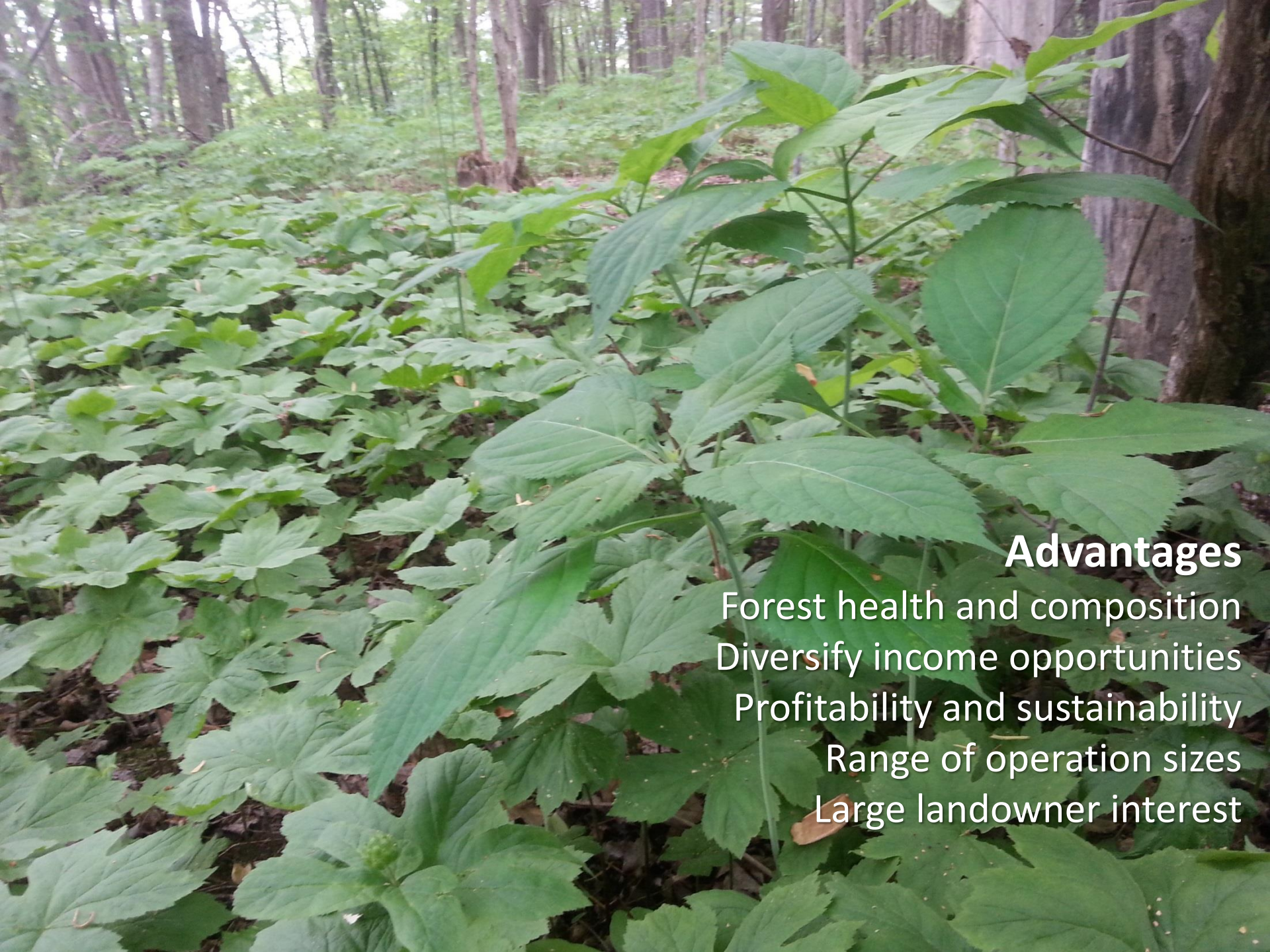
Time

Establishment

Management

Operations

Protection



Advantages

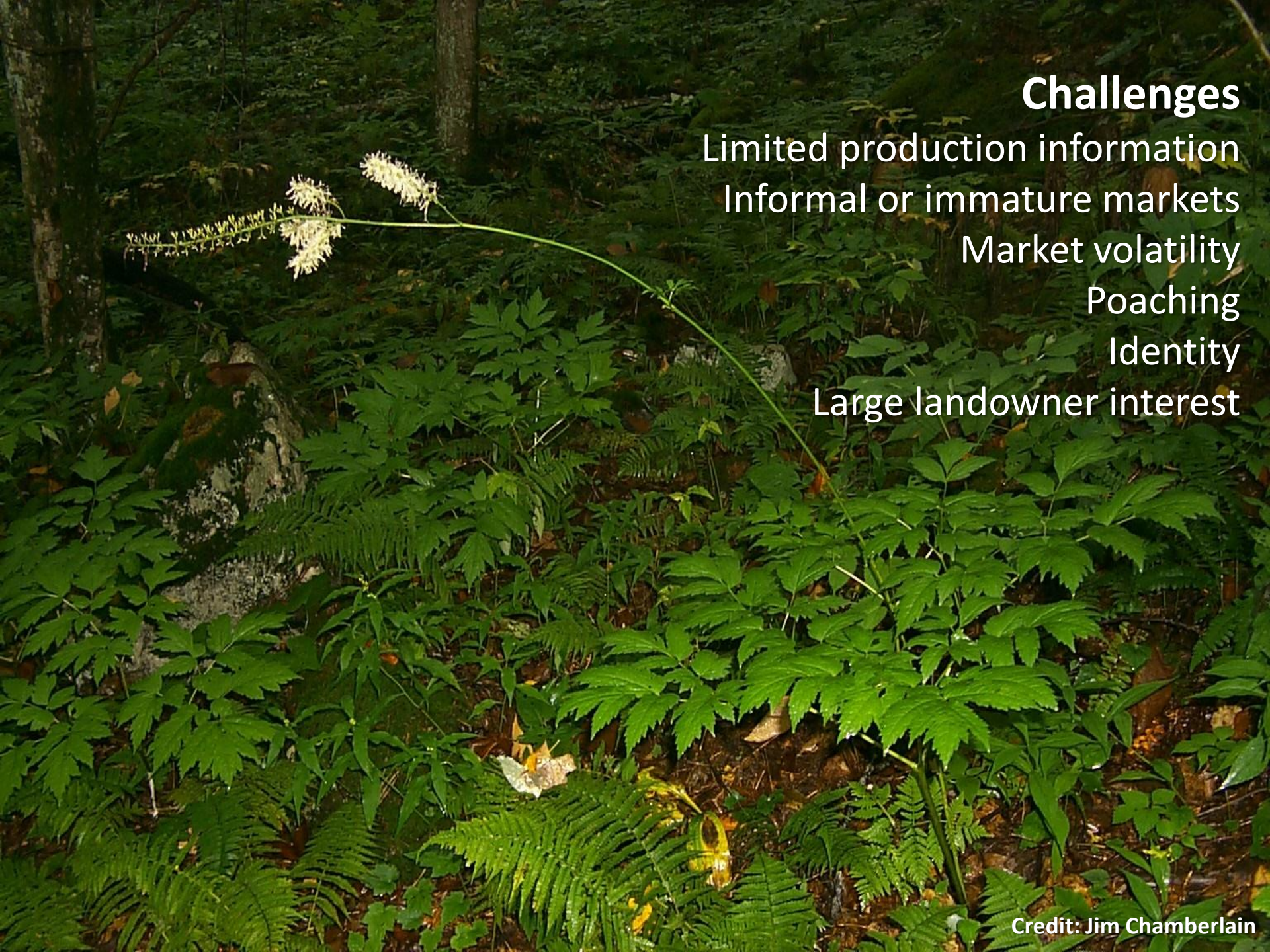
Forest health and composition

Diversify income opportunities

Profitability and sustainability

Range of operation sizes

Large landowner interest



Challenges

Limited production information

Informal or immature markets

Market volatility

Poaching

Identity

Large landowner interest



Ramps (*Allium tricoccum*) coming up in spring

Forest Farming Footnotes

SPRING
2013

SOWING NEW IDEAS

ISSUE HIGHLIGHTS

Dear Community Members,

Welcome to our spring newsletter! To continue improving communication and offering educational resources, we have added sections to the newsletter. *Non-Timber Forest Products Tid Bits* highlights common NTFPs. If you have any you would like to showcase, email us the information and we will be sure to share with the group.

Pages

Extension faculty and staff have published 46,704 pages: 15,925 articles, 14,629 FAQs, and 13,324 news items to www.extension.org.
Last week 11,651 of those pages, the home page.

Dave Carman





Ken Mudge and Steve Gabriel





FARMING THE WOODS

TEMPERATE FOREST FARMING & PERMACULTURE STRATEGIES

farmingthewoods.com

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[THE BOOK](#)

[AUTHORS](#)

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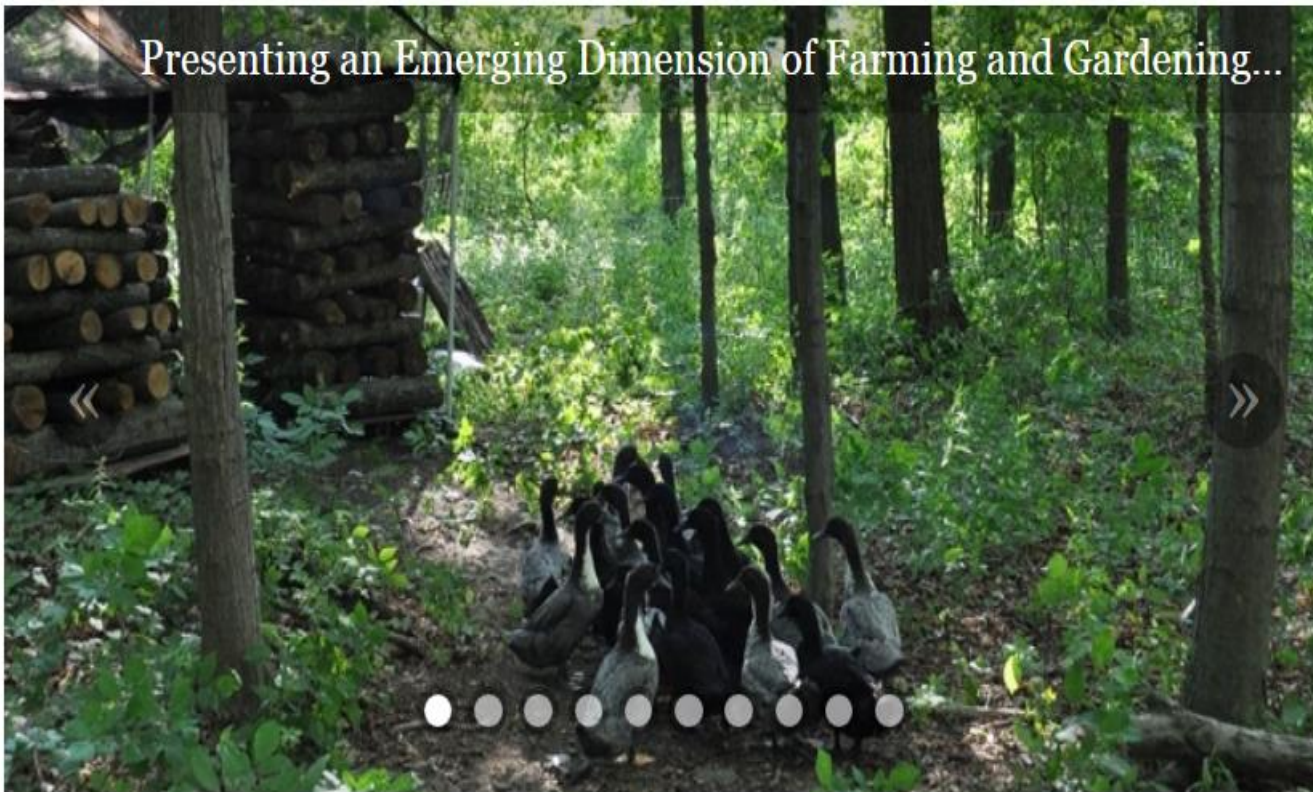
[EXCERPTS](#)

[THE SURVEY](#)

[FOREST FARMER'S NETWORK](#)

VIDEO: WHAT IS FOREST FARMING? WITH KEN MUDGE

Presenting an Emerging Dimension of Farming and Gardening...



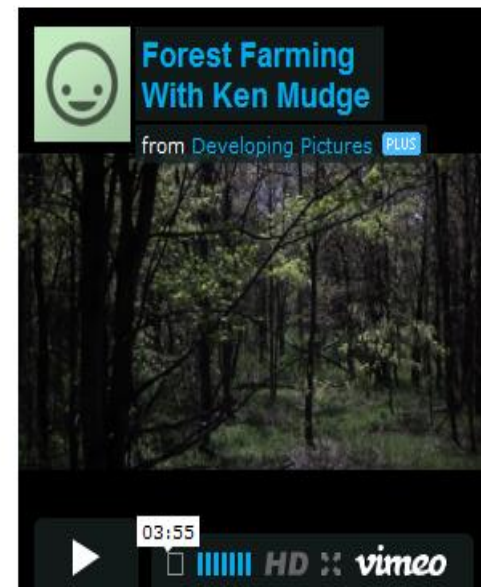
Shiitake: the ABCs of endless culinary delights

July 11, 2013 · by [steveflpci](#) | [1 Comment](#)

RECENT POSTS

- o Shiitake: the ABCs of endless culinary delights

Greetings & Happy Summer from Upstate NY. Since our campaign ended in May (thanks again to all the supportive folks!) Ken and I have been





eXtension.org/forest_farming

What We Do



exforestfarming



Videos

Discussion

About



exforestfarming



Dr. Kenneth Mudge
Cornell University
Department of Horticulture

Four Stages of Shiitake Mushroom Cultivation

179 views 1 month ago

Biologically, forest cultivation of mushrooms involves fungal decay of an organic substrate, usually wood. The substrate is the "food source" for the fungus that allows the fungus to grow and eventually produce mushrooms. The process consists of four stages:

1. Substrate Acquisition
2. Substrate Inoculation
3. Substrate Colonization
4. Mushroom Production



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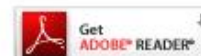
Welcome

My name is Jeanine Davis and I am an associate professor in the Department of Horticultural Science at North Carolina State University. My research and extension programs are dedicated to the development of sustainable and organic production systems for herbs, vegetables, and a wide variety of specialty crops.

The purpose of this website is to provide access to up-to-date, practical information on the production and marketing of these crops and to

keep you informed about the current projects in my program. I encourage you to visit the other websites I maintain that are listed below. Also visit [NC Medicinal Herbs](#) which is a collaborative site with the University of NC-Chapel Hill.

Some of the current projects my staff and I are involved in include working on a regional Chinese medicinal herb production project in which we are overseeing the



You will need the free [Adobe Reader](#) program to view Adobe PDF formatted publications.

New! The presentation on hops production given at the Hops Field Day in Raleigh, NC on July 14, 2012 (this is large and takes a little time to download)

New! Southeast Organic Training Page

Link to Survey on China Consumer Demand for USA Grown Chinese Medicinal Herbs by Galen University Business Students

From the Western NC Forest Products Marketing Project:

Resources

National Agroforestry Center

nac.unl.edu/index.htm

UM Center for Agroforestry

www.centerforagroforestry.org/pubs/index.asp#pubs

Institute for Culture and Ecology

<http://www.ntfpinfo.us/>

Missouri Alternatives Center

<http://agebb.missouri.edu/mac/links/index.htm>

Association for Temperate Agroforestry

<http://www.aftaweb.org>

National Sustainable Agriculture Information Service

<http://attra.ncat.org/horticultural.html#Agroforestry>

Non-Timber Forests Products

<http://www.sfp.forprod.vt.edu/>

Extension Forest Farming

http://www.extension.org/forest_farming



Questions

A photograph of a forest floor. The ground is covered with a layer of brown pine needles. Several rows of green, leafy plants are growing in the forest, between the trunks of tall, thin trees. The trees have dark bark and green foliage in the background.

Net according to Davis (2009)

Wild simulated ginseng: \$20,460 US half-acre after nine years

Woods-cultivated ginseng: \$5,865 US half-acre after six years

Wild-simulated goldenseal: \$10,100 US per half-acre after five years

Woods grown ramps: \$770 US per one-tenth acre after three years

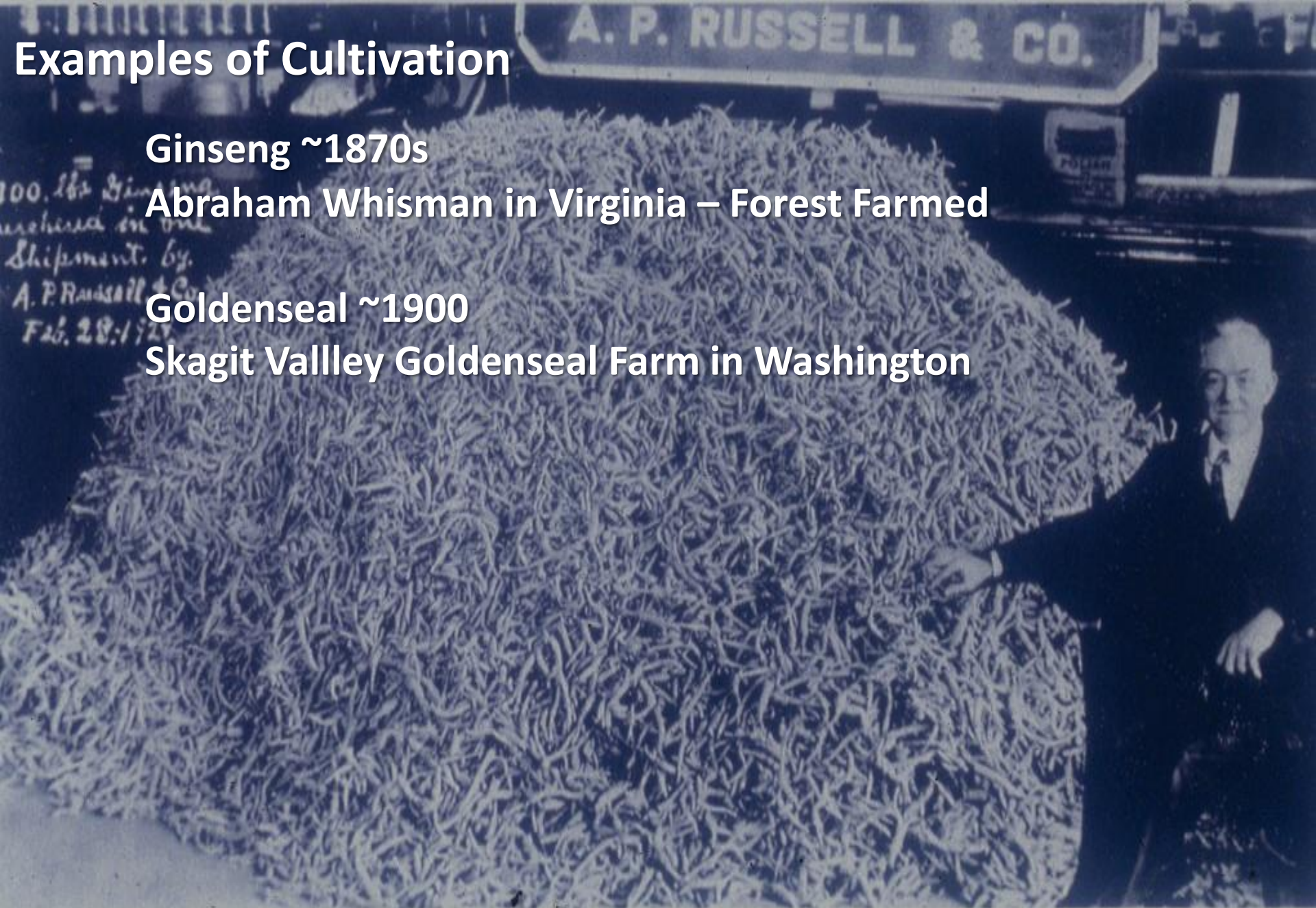
Examples of Cultivation

Ginseng ~1870s

Abraham Whisman in Virginia – Forest Farmed

Goldenseal ~1900

Skagit Valley Goldenseal Farm in Washington



Mr. A. P. Russell, deceased, sits beside a 1700-pound shipment of ginseng in his general store at Buckhannon. All the fabled roots were destined to China