Farm Incubator Curriculum Development

Brought to you by the National Incubator Farm Training Initiative (NIFTI)

Made possible by generous support from the

Agenda

Technology Training – 3 minutes
NIFTI Overview – 2 minutes
NASAP Farmer Training Overview – 25 Minutes
New Entry Training Programs – 15 minutes
MNFA Big River Farms Program – 20 minutes
Next Steps – 5 minutes
Q & A – 15 minutes
National Incubator Farm Training Initiative (NIFTI)

- National demand for new farmers and their products
- Proliferation of new incubator projects
- Shared challenges
- Increasing requests for TA

National TA Initiative: Major Activities

- Field School (October, 2012)
  - In-Class Work
  - Field Trips
  - Networking
- Webinars
  - Marketing (Jan. 2013)
  - Site Management (Feb. 2013)
  - Transitioning Farmers (Mar. 2013)
- One-on-one Technical Assistance
- Online Resources (Wiki - [https://nifti.wikispaces.com/](https://nifti.wikispaces.com/), ListServe)
National TA Initiative:
Partners and Technical Assistance (TA) Providers

NASAP Farmer Training Overview
Daniel Ungier
Director of Farmer Training
A farmer needs to know…

- Soil fertility
- Bed/Field preparation
- Plant biology
- Greenhouse management
- Weed management
- Disease management
- Pests management
- Maturity assessments, harvesting & post-harvest handling
- Equipment use & maintenance
- Whole farm design & management

Where does your program fit in?
What part of farmer training do you want to cover?

- Marketing skills
- English literacy
- Financial literacy
- Leadership development
- Cross-cultural fluency
- Production skills
- Business management skills

Who is your demographic?

- Second career farmers
  - Savings to invest in capital infrastructure
  - Unlikely to seek apprenticeships
- Young, educated farmers
  - Few resources to get started
  - Willing to learn on the ground
- Farmworkers with farm experience in this country
  - Strong production skills
  - Program focus may need to be on other skill areas
- Immigrants or refugees with experience from other countries
  - May lack financial resources and transferable skills
Example Training Structures

- New Entry Sustainable Farming Project
  - Traditional incubator with staff providing farm management and training

- Minnesota Food Association
  - Incubator plots next to a working farm, with opportunities to work on or just observe the farm

- Oregon State University Extension
  - Participants work on a training site several hours a week while also working on starting their own farm

Example Training Structures

- New Farmer Development Project
  - No common land base; production training is via program partners.

- MOFGA Journeyperson
  - Participants are matched with mentors who develop close relationships with individuals

- Land Stewardship Project’s Farm Beginnings
  - Program focus is centered around whole farm management and business planning. Production training happens through site visits.
Who is your demographic?

• Limited literacy, limited resource immigrants and refugees
• Culturally isolated, but have a history of farming

What skill areas will your program address?

• Production and marketing in-house
• Develop partnerships for other key areas

What is consistent with your mission and vision?

• To assist immigrant and refugee farmers to build successful farm businesses that are consistent with their culture, lifestyle aspirations, and individual goals.
How NASAP thinks about farmer education

Bloom’s Taxonomy (Revised)

Based on an APA adaptation of Anderson, L.W. & Krathwohl, D.R. (Eds.) (2001)

- Create
- Evaluate
- Analyze
- Apply
- Understand – Describe, Explain
- Knowledge - Remember

Student-driven teaching goals
In this workshop

- How farming here is different from Africa
- How farm systems are set up here
- Rows & beds
- Weeding
- Cover cropping
How is farming different than in Africa?

Farmers had lots of land to grow their crops
Farms were close to the river... 

...the river flooded the land, bringing nutrients & taking away weeds
Marketing was easy and did not take time

The farm was part of village life
Here in Maine...

- There is not a lot of land
- There is not a lot of time
- There are a lot of customers with very high demands
- Lots of weeds

The farming system has to change to meet these differences.
More efficient use of space, time, and design for high diversity.

3 Main Solutions to the 4 Problems:

Rows & Beds
Weed Management
cover crop
Student-driven teaching goals

Teach from the students' context

Provide for critical reflection and analysis

Support implementation in the field

Integrate students' real experience
Student-driven teaching goals

Teach from the students' context

Provide for critical reflection and analysis

Support implementation in the field

Integrate students' real experience
### April

**Early spring:**
Sometimes warm, sometimes cold, conditions still cold and wet

<table>
<thead>
<tr>
<th>Crop</th>
<th>Planting</th>
<th>Rake in a Bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onion</td>
<td>12&quot; apart</td>
<td>2 rows</td>
</tr>
<tr>
<td>Peas</td>
<td>1&quot; apart</td>
<td>1 row</td>
</tr>
<tr>
<td>Potato</td>
<td>12&quot; apart</td>
<td>2 rows</td>
</tr>
<tr>
<td>Radishes</td>
<td>1&quot; apart</td>
<td>1 row</td>
</tr>
<tr>
<td>Spinach</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planting</th>
<th>Planting</th>
<th>Planting</th>
<th>Planting</th>
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</thead>
<tbody>
<tr>
<td>Transplant</td>
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</tbody>
</table>

### Comparison Table

<table>
<thead>
<tr>
<th>Crop</th>
<th>More</th>
<th>Less</th>
<th>Same</th>
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<tbody>
<tr>
<td>Dandelion</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Broccoli</td>
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<td></td>
</tr>
<tr>
<td>Parsley</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Spinach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet Potato</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnip</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arugula</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bok Choy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scallions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mustard Greens</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Farm Income

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers’ Market, Lewiston</td>
<td>$570.00</td>
</tr>
<tr>
<td>Farmers’ Market, Portland</td>
<td>$400.00</td>
</tr>
<tr>
<td>Farmers’ Market, Kernsbrook</td>
<td>$3,383.65</td>
</tr>
<tr>
<td>CSA</td>
<td>$1,620.00</td>
</tr>
<tr>
<td>Wholesale</td>
<td>$721.65</td>
</tr>
<tr>
<td>Senior Farm Share</td>
<td>$750.00</td>
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</table>

**Total Income**: $7,445.00

### Farm Expenses

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Marketing</td>
<td>$69.53</td>
</tr>
<tr>
<td>Production</td>
<td>$624.65</td>
</tr>
<tr>
<td>Gas &amp; Tolls</td>
<td>$273.40</td>
</tr>
<tr>
<td>Greenhouse</td>
<td>$905.36</td>
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</tbody>
</table>

**Total Expenses**: $1,904.14

**Net Income**: $5,540.86

### NASAP Integrated Pest Management Recordkeeping

<table>
<thead>
<tr>
<th>Pest</th>
<th>Action</th>
<th>Date(s)</th>
<th>Effects/Notes</th>
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</thead>
<tbody>
<tr>
<td>Colorado Potato Beetle</td>
<td>Hand-picking, Row Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flea Beetle</td>
<td>Hand-picking, Row Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wireworm</td>
<td>Hand-picking, Cup collars</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutworm</td>
<td>Hand-picking, Row Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What will work best for your audience – your program – and for your mission?

Student-driven teaching goals

Provide for critical reflection and analysis

Teach from the students’ context

Support implementation in the field

Integrate students’ real experience
**Book resources**

- Crop Planning for Organic Vegetable Growers (pictured)
- The Organic Gardener’s Handbook of Insect and Disease Control
- Sustainable Vegetable Production from Start-Up to Market
- Sell What You Sow!
- Rodale’s Vegetable Garden Solver
- Building a Sustainable Business
- Resource Guide for Organic Insect and Disease Management
- Exploring the Small Farm Dream
- Eliot Coleman’s Four Season Harvest
- The Organic Farmer’s Business Handbook
- Northeast Cover Crop Handbook
- Building Soils for Better Crops

**Web resources**

- Crop Production Budgets for Vegetable and Berry Growers
  - [http://www.uvm.edu/vtvegandberry/budgetlinks.html](http://www.uvm.edu/vtvegandberry/budgetlinks.html)
- Vermont Vegetable and Berry Grower Page
  - [http://www.uvm.edu/vtvegandberry/index.html](http://www.uvm.edu/vtvegandberry/index.html)
- National Sustainable Agriculture Information Service (ATTRA) publications
  - [https://attra.ncat.org/](https://attra.ncat.org/)
- North Carolina Cooperative Extension Growing Small Farms
  - [http://chatham. ces.ncsu.edu/growingsmallfarms/resourcelist.html](http://chatham. ces.ncsu.edu/growingsmallfarms/resourcelist.html)
- CSA Coalition Resources for Growers
  - [http://www.csacoalition.org/resources/growers/](http://www.csacoalition.org/resources/growers/)
- Greenhorns Publication Library
  - [http://www.thegreenhorns.net/?cat=36](http://www.thegreenhorns.net/?cat=36)
- World Crops
  - [www.worldcrops.org](http://www.worldcrops.org)
Other beginning farmer resources

- Northeast Beginning Farmer Project
  - http://nebeginningfarmers.org/farmers/

- New Entry Sustainable Farming Project
  - www.nesfp.org

- Beginning Farmers
  - http://www.beginningfarmers.org/

- YouTube

- Farmer blogs

New Entry Training Programs

Eva Agudelo Winther
National Incubator Farm Training Initiative (NIFTI) Coordinator

Jennifer Hashley
New Entry Project Director
Curriculum Development Timeline

- **Participant Needs Assessment** ('01-'02)
- **Research best practices**
  - Modeled after ALBA 18-23 weeks
  - Lessons from UC Santa Cruz apprenticeship
- **Co-developed curriculum with an intern** (background in education)
  - 1st year: 4 languages; prior participants ('02-'03)
  - 2nd year: English Only (reduced part.) ('03-'04)
- **5th year: Restructured** ('07)
  - From 18 weeks to 6 weeks
  - Transitioned content to 12-week skills training
- **Explore Farming!**
  - A pre-requisite for better screening (2008)

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New Entry Curriculum and Programs

- **Explore Farming!**
- **Classes and Structured Learning**
- **Flem Business Planning Class**
  - Livestock Training
  - Field Training
  - Specialized Advanced Workshops
- **Additional New Entry Services**
  - Access to Training Farm Sites
  - One-on-one Technical Assistance
  - World PEAS Marketing Cooperative
  - Farmland Matching
  - Resource Library
  - Mobile Poultry Processing Unit

Indicates a pre-requisite
Explore Farming!

- Free, 2 hours, offered quarterly
- What is it like to be a farmer?
- Basics re: starting a small farm business
  - Time needed
  - Financial resources
  - Commitment level
- Introduction to New Entry programs
- A screening tool
- Pre-requisite for FBPC
  - “Exploring the Small Farm Dream” worksheets

Farm Business Planning Class (FBPC)

- Taught by New Entry Technical Assistance Coordinator and an intern
- 3 hrs/week, 6 – 7 weeks
- Goal: a completed business plan...
- Pre-requisite for farm site access
- $80 - $400 sliding scale
- Topics covered
  - Marketing
  - Enterprise selection
  - Crop Planning
  - Farm Financials
  - Writing the narrative
Templates and Spreadsheets!

Field Trainings

- Take place on the farm sites, bi-monthly
- Free and open to all FBPC graduates (and non-graduates for a small fee)
- Timed for seasonal relevance of topics over the course of the growing season

Topics
- Equipment use and maintenance
- Field prep
- Pesticide training
- Water and irrigation
- Nutrient management
- Post-harvest handling and food safety
- Weed/pest/disease management
- Composting
- Cover cropping
Field Training Curriculum

Spring Training Series Presents
Field Training: Curriculum

Introduction:
1. Learn the fundamentals of plant disease identification and management.
2. Learn to recognize pest management strategies.
3. Develop a plan for the efficient management of resources.
4. Learn to analyze and solve problems.

Materials:
- Real-world examples
- Field training
- Hands-on exercises

Bacterial Wilt of Cucurbits: Symptoms
- Symptoms on pumpkin
- Symptoms on squash
- Symptoms on cucumbers

Late Blight of Potatoes and Tomatoes
- Symptoms on potatoes
- Symptoms on tomatoes

For more information, visit our website: [Field Training Website]
Livestock Training

- Enterprise focus (vs. hobby farmers)
- Livestock “Field School” series, day-long workshops
- Go into depth
- Poultry, large and small ruminants, swine, rabbits
- Partnerships with the vet school, etc.
- MPPU Trainings/processing days
- Yearly, 150 – 200 participants
- Optional FBPC class and TA

Advanced Workshops

- Applying for NRCS programs
- Farm Service Agency
- Hoophouse production
- SPIN Farming
- Equipment maintenance
- Farm tax prep
- Tractor driving
- Farm to School
Strategies for Non-English Speakers

- No longer provide translation
- English language curriculum geared towards limited literacy participants
- “Plain Language Guides”
MNFA – Big River Farms Training Program

Glen Hill
Executive Director

To build a more sustainable food system through training, education, and partnerships
Minnesota Food Association and Big River Farms History

- Morgan May started May Farm in 1891
- St Paul Farmers Market Closure(?) – 1981
- MFA established in 1983; registered in 1985
- Advocacy, Lobbying, Building Networks and Awareness in beginning years
- Extension support work with Hmong and Latino farmers began in 1999
- On-the-Ground – Production, Training, Distribution and Education since 2005

Our Focus - Growing New Farm Enterprises

- Skills and knowledge to run their own commercial farming operation from production, marketing, business management, and connections to resources
We offer classroom sessions and in-field workshops, conducted by staff, invited instructors and other farmers.

We focus on Organic production and certification, post-harvest handling, and food safety.
We focus on marketing to wholesale and intermediary markets and how to operate your own CSA. A great challenge is the process from the field to the market, especially grading, packing, deliveries, communications, invoicing, record-keeping and building their own market portfolios.

We work with farmers on new skills and appropriate technology. We train in both hoophouse and greenhouse production and management. Farmers both receive instruction and do practical work in the hoops and greenhouse.

In 2013, we are converting one large hoophouse into a Framers Greenhouse where we will help in setting up the management systems but the farmers will manage the greenhouse on their own.
Instruction and Curriculum

- 12 Winter Classes cover 3 main areas: Organic Production and Certification; Marketing; Business Management
- 6 – 8 in-field skill sessions cover: irrigation, equipment, pest/disease management, post-harvest handling/food safety, soil fertility and seed saving.
- 3 – 4 field trips to other local farms

One of our main focuses is to provide continuous individual coaching to all the farmers. About 10 ‘farms’, representing about 30 people, are enrolled in the full program. Each farm has ¼ - 3 acres on which to farm. Each farm receives about 40 – 60 hours of individual coaching and mentoring from MFA staff annually. The average farmer stays in the program 3 years; some as short at 2 and others as long as 5 years.
Farmers put the instruction into practice on their own farms

Farmers’ costs include: $350/acre/season; $250/year for all classes and coaching; seeds, transplants, boxes, fuel, personal tools, etc. MFA provides: all tractor work, irrigation, soil fertility (compost and cover cropping), fencing, storage space, cooler space, washing facility, and computer/telephone work station.

All produce belongs to the farmer, they can sell anywhere. Big River Farms CSA purchases about 75% of the needed produce from the farmers. They also sell at farmers markets, to restaurants, coops, schools, distributors, senior centers, etc. Farmers gross about $6,000 - $15,000 per acre depending on their management and markets.

Since 2008, about 12 farms have established their own sustainable, organic commercial vegetable farms. Most have a combination of selling wholesale, at farmers markets and operating their own CSAs.
Future challenges for Curriculum and the farmers are primarily: Land, facilities, equipment, capital, operating expenses.

Annual Immigrant and Minority Farming Conference (in February) attracts about 170 – 200 farmers of over a dozen ethnicities from 6 or more states. All workshops are conducted by ‘practitioners’.
Working with farmers of limited English capacity is primarily a challenge for newer refugees. Staff have Spanish capability, but we have up to 6 or 7 language groups of farmers. We ask farmers to provide their own interpretation as they need it. Most often it is a younger relative. Very common feedback is that they want to use English because this is the language that will have to use in their future business.

**Highlights**

- Practical production farming training to 10 ‘farms’ (about 30 farmers) annually, from field to market to business management. Covers a wide range of details from greenhouse propagation, understanding seed catalogs and purchasing seeds, calculating harvest yields, how to write invoices, etc.

- Follow USDA Food Safety Standards (1st immigrant farmers in MN)

- Organic Certified (1st immigrant farmers in MN)

- Connect farmers to resources as other farmers or farm programs, USDA, local business, local financial lenders like AgStar, etc.

- All farmers have at least 2 different market outlets and usually have many more.

- Connect farmers to other workshops, field days, and conferences, and provide scholarships when possible.
Contact Information

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14220-B Ostlund Trail North
Marine on St. Croix, MN 55047
Tel: 651-433-3676 Fax: 651-433-5050
www.mnfoodassociation.org

NIFTI Next Steps

- Technical Assistance
  - A limited amount of TA is available through project partners
  - Initial intake and first 4 hours free
  - Contact New Entry for more info

- Online Resources
  - Website
    (http://nesfp.nutrition.tufts.edu/resources/nta.html)
  - Wiki
    (https://nifti.wikispaces.com)
  - List Serve
    (https://elist.tufts.edu/wws/subscribe/incubatorfarms)

- Webinars
  - Three more in the works
  - NEXT: Marketing
    - January 29th 1 – 2:30 (EST)
  - Site Management
    - February 26th 1 – 2:30 (EST)
  - Transitioning Farmers
    - March 26th 1 – 2:30 (EST)

- Your input is critical!
  - Please complete the evaluation after this webinar
  - Feel free to email with ideas, feedback or questions
Thank you for attending

Please fill out your evaluations!

Contact us:
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New Entry Sustainable Farming Project
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