Growing Rice in New England

Exploring the Promise of the Grain That Hardly Any New Englander Takes Seriously….yet.
Our Story With Rice


2. Trying Wheat and Barley with little Success (2006-2010)


4. Accessing Expertise and Resources Directly from Japan (2015-Present)
Our Rice Project and Others in the Region

Maine:
Wild Folk Farm (1 ac)

Vermont:
Boundbrook Farm (6 ac)

New York:
Ever-growing Family Farm (1 ac)

New Jersey:
Blue Moon Acres (?? acres, dryland)

Maryland:
Purple Mt. Organics (1 ac, dryland)
Paddy Rice

- A wetland model, requires paddies and dikes
- Farmers must be able to manipulate large quantities of water at will
- Water aids greatly in weed suppression
- Most productive/unit area
- Most Common Worldwide Method
- Unfamiliar in NE USA
Dryland Rice

- Usually a row crop
- Rice is very thirsty so some irrigation system still needed
- Weed pressure very strong
- Less productive / unit of area
- More labor intensive
- Style of growing more familiar to NE USA farmers
- Used in Asia only for areas where wet rice is impossible
What Kind of Land is Best for Paddy Rice?

- Very Flat
- Not sandy, fertile soils
- Ample water and the ability to move it around
  - unlimited flowing water is ideal
  - Stored water is next best
  - Well or municipal water is impractical
- Not a protected wetland area
What’s Needed to be a New England Rice Farmer?

- Some Willingness to Relearn Farming
- Systems Mindset
- Appetite for New Technical Challenges
- Ability to invest and a long view
- Ability to support Labor Needs
  - April Nursery Setup
  - June Transplanting
  - July Crop Establishment
  - October Harvest
- Willingness to Self-market
April: Preparing the Nursery

- Rice is sown in transplanting flats
- Roughly 300 sf growing area / acre
- Freezing and overheating must be avoided
- Keep Temps as close to the 65-85 range as possible

Early April -- Soaking seeds
Mid-April: Planting Flats

- 130-150 Flats / Acre
- Planting machines plant about 100 per hour
Late April-Early June: Nursery Maintenance

- Nursery needs to stay warm
- Plants need to have their roots wet at all times
- Birds and Rodents kept out
- Occasional Topdressing
May: Field Preparation

- Careful field tillage is the key!
- Wet tillage is the norm for rice paddies
- Water is added to paddies and tilled to a slurry
- Multiple passes!
- Excess water is drained just before transplanting
- Paddies become easier to level each year
Early June -- Transplanting

- Plants are 4-6” tall and have 3 leaves
- Rice Transplanters can do about 1 acre per day
- Larger plants = more transplant shock
- Hand Transplanting Takes An Eternity
June: Getting the Ducks Ready!

- “Aigamo” means Japanese Modern Duck and Rice Farming
- About 100 ducks / acre
- Ducks need supplemental feed and predator protection
- Ducks reduce weeds and pests and do not harm rice
- New ducklings are raised each year
Late June - Early August: Ducks and Rice Together
Early August - October

- Ahhh!!!
- Not much a farmer can do after this point to affect the outcome
- Drains are opened, grain slowly ripens
- Ducks are removed from paddies and are sold or fattened
Early October -- Harvest

- We always hope for dry field conditions
- But, rice combines can function in wet fields
- Rice is usually 22-27 % m.c. at harvest
- Drying must keep pace with field harvest
Postharvest Processing

- Dry Down to 14-15% m.c. overnight
- Rice can be hulled after drying
- Japanese rice hullers can hull several tons of brown rice per day
Storage, Milling and Marketing

- In cool, humid conditions, brown rice retains quality
- White rice is best polished to order
- We spend the winter processing and selling
Yes, But What Does It Cost?

- $1000-6000 per acre field costs, one time
- About $2000 per acre nursery infrastructure costs
- About $30,000 for a full kit of imported used rice machines and tools for 2-15 acres (not including tractor)
- Annual Operating Costs about $4000/acre inc. seasonal labor
What’s The Potential?

- Up to 4500 lbs premium brown rice/acre
- Up to $10 per lb for brown rice
- A largely unmet demand for quality regional rice!
- Make Your “Worst Land” your “Best Land”
- Enhance the Environment in So Doing
- Create Habitat for Wildlife
- Improve Your Watershed by Capturing Nutrients in Local Runoff
- Proactively Adapt to a Shifting Climate
Thank You!