

*The Mid-New England*

# *Grain Conference*

*July 14 & 15, 2011*

*South Deerfield and Colrain, MA*



*Join us to share skills to grow organic grain, bake artisan bread  
& celebrate the harvest.*

*A collaborative initiative of UMass Extension,  
the Heritage Grain Conservancy and  
'Northeast Organic Wheat' Farmers and Bakers*

**Locations and Directions:**

**July 14**

**UMass Farm, 89-91 River Rd, north of 116, South Deerfield MA (Exit 24, I-91)**

**July 15**

**Colrain Seed Farm, 400 Adamsville Rd, Colrain**

***Directions: 91 N, Exit 26, West on RT 2, RIGHT after Hager's Farmers Market onto Shelburne-Colrain Rd (to 112 North, Jacksonville, VT), after 5 miles turn LEFT at Main Rd (sign says Enter Here). Take first RIGHT onto Foundry Village Rd. RIGHT at Yield onto Adamsville Rd. Seed Farm at 400 Adamville Rd. on left side***


*We would like to thank our funders, sponsors & partners  
for generously supporting this work:*

*Northeast SARE <sare.org>,  
The Massachusetts Society for Promoting Agriculture <mspa.org>,  
Anson Mills <ansonmills.com>, UMass Center for Agriculture, UMass Extension Vegetable  
and Crops Dairy Livestock Programs, <umassvegetable.org> and the*




*Heritage Grain Conservancy*  
***growseed.org***

*We would like to extend appreciation to the following organizations  
for their in-kind contributions:*

	<p>Australis Aquaculture, LLC 1 Australia Way, Turners Falls MA01376 Phone: 888-60-BARRA (888-602-2772) Fax413-863-2950</p> <p><a href="http://thebetterfish.com">thebetterfish.com</a></p>
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Recognized most significantly for their establishment of Barramundi in North America, a sustainably grown sea bass, Australis Aquaculture provides a sustainable and healthy seafood market under the idea of “The Better Fish” motto – “Better Tasting, Better For You, Better for Our Environment”. Established in 1982 by Josh Goldman who spent years searching for a fish species that would meet his criteria, Australis currently is the world’s largest and only vertically-integrated barramundi producer. Based in Turners Falls MA, they pride themselves on their revolutionary, sustainable aquaculture practices.

	<p>Whole Foods Market 327 Russell St. Hadley MA, 01035 Phone 413.586.9932</p> <p><a href="http://wholefoodsmarket.com/stores/hadley">wholefoodsmarket.com/stores/hadley</a></p>
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Whole Foods Market began in 1980 in Austin Texas and has now risen to become the world’s leading seller of natural foods with over 300 stores in North America and the United Kingdom. Founded on the principles of providing the highest quality natural and organic foods, strict quality standards, and sustainable agriculture, Whole Foods Market maintains a mission of “Whole Foods, Whole People, and Whole Planet.” Whole Foods Market Hadley has been part of the western Massachusetts community for over 25 years as both Bread and Circus and as Whole Foods Market. At their store, you will find an amazing variety of high quality foods made with no artificial ingredients or preservatives including hormone-free meat and sustainably harvested seafood.



River Valley Market 330 North King St.  
Northampton MA, 01061  
Phone: 413.584.2665  
Fax: 413.584.2664  
Email: [info@rivervalleymarket.coop](mailto:info@rivervalleymarket.coop)  
[rivervalleymarket.coop](http://rivervalleymarket.coop)

A food cooperative specializing in local food items, River Valley Market first opened in April of 2008 and has been serving fresh, local food to the Pioneer Valley ever since. They are a community owned, full-service grocery store offering a wide range of local and organic produce, meats and seafood, deli items, desserts, coffee, wellness items and much more. Due to the community ownership, they are happily able to stock shelves with items customers want to purchase rather than what the manufacturer wants to sell, therefore fulfilling the community's wants and needs. The building they are located in is energy efficient and encourages efficiency through the existence of bike racks and electric car chargers for patrons to use.



## Katywil Ecovillage

43 Stetson Brothers Road  
Colrain, MA 01340  
Phone: 413-624-5599  
Fax: 413-624-0109  
Email: [bill@katywil.com](mailto:bill@katywil.com)

Katywil, an eco-village, named for the grandparents of founder Bill Cole, Kate and Will Cole, is envisioned as a community of people who treasure the beauty of this land and its subtle pleasures, who wish to simplify their lives, and who relish the company of others. The goal of Katywil is to maximize energy efficiency and ultimately, to produce our own energy. Katywil's woods, orchards, stream and gardens will provide not only beauty, but also the joys of a bountiful harvest and healthy food, coupled with the peace and quiet of an Arcadia nestled in the hills of Colrain. Katywil is a vision of how life might be.

# Welcome to the Mid-New England Grain Conference!

## *'Building a local grain system'*

As interest in local foods grows, so does the demand for local grains. Farmers are responding to the demand from bakers, millers, and direct market customers with a courageous and exciting move to grow, harvest, thresh, clean and sell wheat and other grains. Farmers are taking the lead in re-establishing the knowledge, equipment, and infrastructure to produce small grains in Massachusetts. Bakers are learning to produce loaves with local grains, and customers respond with enthusiasm. For both organic and non-organic grain growers alike, there is a steep learning curve on every aspect from variety, spacing, timing, fertility, weed and disease management, on through harvest and, marketing.

Opportunities for new crop rotations, better soil management, and new income streams are great. Today you will hear about all of these aspects of grain production and marketing and ways in mid New England along with new ways to use grains. We hope that you will go home with inspiring and practical ideas, new connections, and energy to be part of the emerging local grain system!

--*Ruth Hazzard, Masoud Hashemi and Jacqui Carlevale, UMass Extension,*  
[umassvegetable.org](http://umassvegetable.org)

### *in cooperation with:*

**'Northeast Organic Wheat'** (NOW), an initiative funded by NESARE to advance community-based bread-to-wheat systems, and farmers' knowledge and practical skills in on-farm trialing and selection to re-invigorate superior landraces. Our goals are to adapt diverse wheat populations to NE organic systems, to identify superior modern wheat varieties best adapted to organic systems, and to lay the foundation to develop adapted genepools and varieties with high quality for artisan bakers. NOW will disseminate our methodologies, improved wheat genepools and results to researchers, cooperative extension, organic farmers, and foster regional market linkages with millers and bakers. This project represents a community-based approach to strengthen our NE regional grain supply.

For information on 'Northeast Organic Wheat', see:

[mysare.sare.org/mySARE/ProjectReport.aspx?do=viewRept&pn=LNE08-270&y=2010&t=0](http://mysare.sare.org/mySARE/ProjectReport.aspx?do=viewRept&pn=LNE08-270&y=2010&t=0)



## Cultivating Diversity.

## Growing Resilience.

Welcome to the **Grain Conference**, an action-planning gathering to address a concern shared by researchers, farmers, bakers and people that like to eat delicious food, a concern that spans New England to encompass global food and farming issues.

Today landrace wheats, the wheats that have richer flavor, high nutritional value, with competitive yields in organic fields, are in danger of being lost to the world. Landrace wheat evolved over millennia of natural and farmer selection to thrive in adverse conditions. Today's unprecedented erosion of landrace biodiversity has resulted in dependence on fewer varieties limiting food security, nutrition and culinary arts. The very landrace wheats that carry a Noah's Ark of resilience are threatened - many on the verge of extinction.

Modern wheat, the most widely cultivated crop on earth, is bred for high yield in agrochemical-soaked conventional soils. Uniform modern wheats lack flexibility to adapt. Adapt we must as we face the weather extremes of climate change.

The wheats you will tour today are not dwarfed for efficient harvest by goliath combines powered by fossil fuel. They are not patented by multinational corporations, but were generously gifted to us from the hands of traditional farmers. Each seed was planted *one foot apart at the rate of 5 lbs per acre*. This stimulates extensive tillering, and root systems that hold the plant securely under torrential rains, yet can reach down to the soil moisture in drought. Tall, landrace wheats can be harvested by the quiet human-powered swish of a simple scythe.

Restoring the biodiversity the world's most widely grown food crop is not only is the best defense against disease, pest and environmental stress, but can enhance the livelihoods of farmers and communities world-wide - a key link for robust community seed and food systems for a planet facing unprecedented climate change and growth.

Our goals are to:

- *share knowledge and skills to restore, breed, adapt and exchange landrace seed,*
- *strengthen community seed systems,*
- *develop markets for heritage grains, for genetic conservation that benefits resilient local communities, and to celebrate our multicultural cuisine.*

*Eli Rogosa*

*Heritage Grain Conservancy & Northeast Organic Wheat*

***growseed.org***

## Program at a Glance: Day 1 – July 14, UMass Research Farm

**9:00 - Welcome: E. Rogosa & R. Hazzard**

**9:15 Why Grow Landraces; the Value of Biodiversity**

*Glenn Roberts, [ansonmills.com](http://ansonmills.com)*

**9:45- Restoring Landrace Wheat for Sustainability, Climate Resilience and Artisan Cuisine** --*Abdullah A. Jaradat*

**10:30 - Building a Local Grain System**

*Heather Darby, University of Vermont,  
Ellen Mallory, Organic Bread Wheat Project, Maine Extension*

**11:15 - Round Table: Organic Wheat for Community Vitality**

*Dean Spaner, Abdullah Jaradat, Heather Darby, Ellen Mallory, Eli Rogosa, Ruth Hazzard*

**12:00- Lunch: Featuring a Tasting to Celebrate Local Breads**

**1:00- Tour of the UMass Organic Wheat Trials**

### **Afternoon Concurrent Sessions**

<b><u>1:45 - Large-scale Growers Circle: Harvesting, Processing and Storing</u></b> <i>Jacob L'Etoile, <a href="#">Four Star Farm</a>, Alan Zuchowsky, Lazy Acres Farm &amp; Friends</i>	<b><u>1:45 - Small-Scale Growers Circle: Grain Production and Equipment</u></b> <i>Tevis Robertson-Goldberg, <a href="#">Crabapple Farm</a></i>
<b><u>2:30 - Growing Grains for Malt:</u></b> Cultivating barley for malt, the malting process, building market partnerships. <i>Andrea and Christian Stanley, <a href="#">Valleymalt.com</a></i>	<b><u>2:30 - Bakers Circle:</u></b> Baking with Local Grain: Challenges and Opportunities, <i>Ben Lester, <a href="#">Wheatberry.com</a> and Friends</i>

**3:30 Product Development, Packaging, Food Writing and Market Partnerships**

*Margaret Christie, [CISA](#), [buylocalfood.org](http://buylocalfood.org) and June Russell - [New York City Green Market](#)*

**5:30 Buffet Dinner**

*Puskin Gallery, Greenfield - \$12 per person (paid at the door)*

*Directions: North on River Road, Right at 5 & 10. Restaurant is the corner of Main and 5 & 10.*

## Program at a Glance: Day 2 – July 15, Colrain Seed Farm

### 9:00 - 9:30 Tour the Colrain Seed Farm

with *Cr Lawn*, founder of <fedcoseeds.com> and Eli Rogosa

### 9:30 - 11:00 Brick Oven Building, Firing and Baking

*David Neufeld, truebrickovens.com*

### 11:00 - 12:00 Community Bread Sharing

### 12:00 Potluck Lunch

### 1:00 Baking Artisan Sourdough Bread

*John Mellquist, Trukenbrod Mill and Bakery, Vershire, Vermont*

### 3:00 - 5:30 Five Thousand Years of Bread

*Abdullah Jaradat*

### 6:00 Potluck Dinner at Katywil Farm Community and Ecovillage



maryazarian.com



*July 14 - 9:00 - 9:10*

**Welcome: Eli Rogosa and Ruth Hazzard**

*July 14 9:10 - 9:45*

**Why Grow Landraces?**

*Glenn Roberts, ansonmills.com*

Glenn Roberts, a culinary historian, chef and the founder of Anson Mills, has single-handedly brought back from near-extinction the heirloom corn, rice, and wheats that were in the Southern kitchen before the Civil War, restoring a celebrated regional cuisine. Drawing on his expertise in restoring heirloom seed, on-farm selection and organic management, Glenn will speak to the culinary value, food heritage and challenges of growing heirloom grains.

*July 14 - 9:45 - 10:30*

**Restoring Landrace Wheat for Sustainability, Climate Resilience and Artisan Cuisine**

*Abdullah A. Jaradat*

*USDA-ARS, 803 Iowa Ave., Morris, MN 56267 USA*

[abdullah.jaradat@ars.usda.gov](mailto:abdullah.jaradat@ars.usda.gov)

Landrace wheats are comprised of complex, variable, genetically dynamic and diverse populations, that have evolved an equilibrium to survive and thrive under the both biotic and abiotic stresses in their environment. Traditional wheat farming communities contributed, for millennia, to the evolution of on-farm conservation of diverse wheat landraces that created the foodcrops we eat today. Community-based seed exchange systems were the foundation of the evolution and diversification of landrace food. However today the diversity of landraces and the knowledge to maintain community seed systems on which they depend are almost lost.

Wheat landraces evolved a capacity for survival and stable performance under local growing conditions and organic inputs. The combined effects of natural and farmer selection have generated architecture of genotypes representing different combinations of traits, such as growth habit; cold; heat or drought tolerance; early growth vigor; competition with weeds; disease tolerance; water and nutrient use-efficiency; time to heading and maturity; seed filling duration; and quality traits suited for diverse sustenance objectives and local food preferences.

The complex traits of landraces provide a Noah's Arks of resilience as we face the unprecedented stresses of climate change. However during the last century, introduction of high-yielding varieties bred for industrial systems resulted in loss of diversity of landraces, limiting their capacity to adapt and evolved to unprecedented climate change pressures.

*How did traditional farmers maintain the rich diversity in their fields? What can we learn from their traditional practices to generate flexible adaptable traits for today?*

**Mixtures in Diversified Cropping Systems:** Farmers planted and saved seeds of diverse polycultures of wheat landraces to lower the risk of failure and increase food security because they had limited capacity to control their unpredictable environment. This practice led to the development of meta-populations of wheat with enhanced capacity to adapt and evolve.

**Community Seed Systems:** Traditional seed systems provide free access to locally-adapted farmer-saved seeds and support the exchange of new diverse genetic material to bulk superior adaptations. This dynamic, evolving diversity results in wheat landraces with enhanced capacity to adapt to climate changes and emerging markets.

**Market-based Strategies for Genetic Conservation:** Today's seed systems respond not only to natural, agronomic and culinary selection criteria, but to market demands that sustain farmers.

Our challenge is to raise the economic, agronomic, social and culinary value of wheat landraces, to equal or exceed that of high-yielding uniform wheat varieties so that farmers today will continue to grow and manage them. Multi-sectoral market-based strategies are needed to restore the dynamic evolutionary processes that maintain landrace diversity before they are lost.

*July 14 10:30 -11:15*

### **Building a Local Grain System**

*Heather Darby, University of Vermont,*

*Ellen Mallory, Organic Bread Wheat Project, Maine Cooperative Extension*

Heather and Ellen will share the work of the **Northern New England Local Bread Wheat Project**, a collaborative project among researchers, farmers, millers, and bakers in Vermont and Maine to help local farmers increase the production and quality of organic bread wheat through research, education and networking.

**The project** is a collaborative project among researchers, farmers, millers, and bakers in Maine and Vermont to help local farmers increase the production and quality of organic bread wheat through research, education, and networking. Ellen Mallory and Heather Darby serve as co-leaders of the project and will share is happening and what has been learned about building a local grain system. Heather will discuss her on-farm breeding and selection program, grain trials, ie heirloom spring wheat, planting date studies and malting barley.

Growing demand for local organic food has inspired new efforts to revive a staple element of the New England food system ... bread. Supplying this expanding market for organic bread wheat represents a significant opportunity for our region's farmers. A group of 10 researchers and extension educators were recently awarded a \$1.3 million grant from the USDA to increase farmers' capacity to produce high-quality organic bread wheat. In partnership with local farmers, millers and bakers, the project is working on three main initiatives over the four years:

Research:

- Identify wheat varieties suited for organic production in our region for yield, quality, and taste
- Develop fertility strategies for high-quality grain
- Evaluate innovative weed management systems

Tools for Farmers:

- Region-specific production guide

- Interactive enterprises budgets to evaluate the profitability and risk of growing bread wheat
- Online resources (videos, budgets, bulletins)

Networking and Education:

- Northern Grain Growers Association support
- Farmer exchanges to areas with established local bread wheat systems in Quebec & Denmark
- Regional workshops and local field days

For more information on the Northern **New England Local Bread Wheat Project** see:

<http://sites.google.com/site/localbreadwheatproject/home>

One accomplishment is the establishment of a Grain Quality Laboratory. Available tests include the Falling Number of wheat, an internationally standardized method for sprout damage detection; protein analysis; and deoxynivalenol (DON) also known as vomitoxin. Occurrences of this vomitoxin in wheat at or above 1 ppm are considered unsafe for human consumption by the FDA. Contamination of wheat with DON is directly related to the incidence of Fusarium head blight and strongly associated with relative moisture and timing of rainfall at flowering.

For more information on UVM activities: <http://www.uvm.edu/extension/cropsoil/grains>

*July 14 11:15 - 12:00*

### **Round Table: Organic Wheat for Community Vitality**

*Dean Spaner, Abdullah Jaradat, Heather Darby, Ellen Mallory, Eli Rogosa, Ruth Hazzard*

Modern wheat breeding has focused on increasing uniformity, yield, disease resistance and quality, while reducing height, root systems and time to maturity. Some farmers observe that older landrace wheats may be more suitable to organic production. Varieties best adapted to organic production may be taller to better with weeds, with good early emergence and robustness to produce stable yields under fluctuating weather extremes.

This round table will discuss guidelines to develop organic varieties using selection criteria of performance in mixtures, weed competition, height and tillering capacity, different seeding rates and capacity to adapt to climate change weather extremes. We will discuss how to strengthen the values and community systems that best foster a dynamic, resilient approach to plant evolution for a sustainable future.



July 14 1:00-1:34

## **Tour of the UMass Organic Wheat Trials**

*with Eli Rogosa, an artisan baker and farmer who collects and conserves landrace grains in the Fertile Crescent and Europe in partnership with genebanks and peasant farmer networks. UMass trials include:*

**Banatka** - a Hungarian landrace meta-population renowned for winter-hardiness, drought-resistance and excellent bread-making quality. Our 'Banatka' is a Rogosa cross of Bankuti (Tzsavedekei x Marqui) x Ukrainka, a Banatka selection brought north.

**Bezbanatstaja** - Rogosa cross of Bezostaja, a stiff strawed modern type x willowy tall Banatka, selected for height for weed competition, high yielding, high protein potential

**Black Winter Emmer** - Beloved as delicious 'farro' in Italy, majestic, resilient Emmer withstands weather extremes, thriving in drought or moist weather,

**Canaan Rouge** - arose in a field of Rouge de Bordeaux, selected for height and beauty

**Einkorn** - ancient grain domesticated in the Fertile Crescent. Our Carpathian Mountain Einkorn is higher in protein and minerals than modern wheat, with diploid gluten.

**Ethiopian Purple** - rich in anti-oxydents, short and bushy with deep purple seed

**German Biodynamic** - originally bred for Biodynamic fields with Demeter certification

**Poltavka** - a deep-hued landrace collected in 1915 from the Poltavka region in the Ukrainian steppes, a site of ancient cereal culture and grain goddess artifacts

**Rogosa** - Banatka x Bezostaja selected for fat seed and sturdy stalks.

**Rouge de Bordeaux** - beloved by artisan bakers, this French landrace was gifted to Eli by Jean Francois Berthelois, a French farmer-baker-seedsaver extraordinaire

**Zyta** - high yielding Polish modern wheat. Zyta, first to emerge in spring, continues to be a winner in sturdy stalks, wide deep-green leaves and high protein, short and uniform.

Treatments include mixtures of varieties with similar times to maturity, and spacing trials planted at 6" and 8" apart. The replicated trials were planted at 12" apart.

### **Also Available:**

**Red Lamas\*** - earliest wheat grown in colonial Mass. In the Modern Husbandman, 1784, William Ellis wrote: 'Red Lammas is deemed the 'King of Wheats' for having deservedly the reputation of the finest, full bodied flour. It fetches the best price at market.'

**French Melange\*** - A delicious panoply of heritage French wheats selected for rich complex flavors, baking quality and grain health; a resilient polyculture of diversity

All seeds are public domain, gifted from the hands of traditional farmers to our hands to continue on-farm selection in our own fields. For seed contact Eli Rogosa: [growseed@yahoo.com](mailto:growseed@yahoo.com) or visit: [growseed.org/seed.html](http://growseed.org/seed.html)

*July 14 - 1:45 - 2:30*

**Farmers' Circles**

*Jacob L'Etoile, Alan Zukowski, Andy D'Appollonio, Arni Vohringer*  
Large-scale growers will meet to share challenges and experiences.

*Tevis Robertson-Goldberg*

Combines have dominated our grain breeding and production system to the extent that small scale methods and tools are almost lost. We need to relearn the skills to hand harvest and process grains. Tevis of Crabapple Farm will share his experience growing and harvesting grain with hand tools, several of which are handmade. He will demonstrate scything and discuss how grain can be integrated in and benefit small scale diversified farms and gardens.



*July 14 - 2:30 - 3:30*

**Bakers' Circle**

Join Ben Lester and Pioneer Valley Bakers to discuss the unexplored terrain of local grains and building market partnerships.

*July 14 - 2:30 - 3:30*

**Growing for Malt Workshop**

*Andrea and Christian Stanley <valleymalt.com>*

The reintroduction of the local malt house brings excitement to New England brewers but also presents challenges as we work to reinvigorate local infrastructure. When the Massachusetts Commonwealth was first settled, cultivating, malting and brewing barley were an important part of everyday life. The demand for beer was met by local growers and producers. However in the late 1800's local malt houses began to close as this staple moved westward. Today only a handful of malt facilities exist in the US. All are west of Wisconsin. Starting in 2010 Andrea and Christian Stanley started Valley Malt, a micro-malt house in Hadley, MA. This workshop will discuss methods to cultivate barley varieties best suited for malting, its role in organic rotations, the malting process, and building market partnerships with growers to meet the burgeoning interest in local malt for breweries.

*July 14 - 3:30 - 4:30*

## **Marketing Local Grains**

*June Russell, Glenda Neff, Margaret Christie*

June Russell of Greenmarket, GrowNYC, Margaret Christie of CISA, and Glenda Neff of New York State Department of Ag. and Markets will discuss efforts to raise the profile of local grains through use of direct marketing, promotions, the press, and educational events as well as the direct match making of local mills with commercial bakeries.

The reintroduction of grains into our regional foodshed throughout the Northeast is exciting and inspiring, however several obstacles need to be overcome for grains to be restored to their central place in the local foods movement. Grains have lagged behind in the local market basket due to the lack of availability. Until recently bread wheats were not bred for the Northeast, and the heritage varieties that thrived in 1800s New England were forgotten. Farmers lacked locally-adapted varieties and local infrastructure. We need to learn a new grain vocabulary. Bakers, chefs and home cooks need to establish new routines to buy directly from local farmers. In today's conventional food culture, flour is sold as a uniform blend, grown by a faceless farmer from a distant field. In contrast our goal is to build local partnerships that celebrate who grew the grain, where it was grown, its history, unique qualities and flavor.

Margaret will speak about CISA's work promoting locally grown food and linking farms and communities in the Pioneer Valley through the "Be a Local Hero, Buy Locally Grown" program, and summarize what she's learned from grain growers, bakers, and brewers about their needs for marketing and customer communication.

June will share her pioneering work at the NYC Greenmarket to source local grains for NYC bakers, with collaborative projects that promote a local grains system and local grain growers while educating consumers. In 2010 Greenmarket "Grains Week" hosted citywide promotional and educational events on local grains, and published "The Greenmarket Guide to Grains".

Glenda will present 'Farm to Bakery: Building Value Chains for Regionally-Grown and Milled Grains', a project of NYS Dept of Ag and Markets, funded by the USDA. The project is a collaborative effort of growers, millers and bakers to meet NYC bakers' demand for New York State-grown grains. The program is determining what is needed to provide local grains to more than 200 wholesale bakeries in NYC as well as upstate bakers selling direct to consumers via Greenmarket's network of farmers' markets.

## **5:30 Buffet Dinner**

**Pushkin Gallery, Greenfield - \$12 per person**

*Directions: North on River Road, Right at 5 & 10. Restaurant is the corner of Main and 5 & 10.*

## July 15 Community Grain Festival



*at the Colrain Seed Farm*

### 9:00 - 9:30 Tour the Colrain Seed Farm

with *Cr Lawn*, founder of <fedcoseeds.com> and Eli Rogosa

Try your hand at the traditional harvest art of scything. Use a human-powered treadle thresher.

### 9:30 - 11:00 Brick Oven Building, Firing and Baking

*David Neufeld, truebrickovens.com*

David Neufeld of True Brick Ovens builds traditional wood-fired brick ovens. This workshop will highlight the design and material aspects of brick ovens, the masonry methods used to build them, the technique of firing the ovens to baking temperatures, and interspersed, the historical context of brick ovens in cultures throughout the world.

Beginning with design and materials, David will bring examples of bricks cut specifically for building domed brick ovens. Through observation of his portable oven, the final dome structure can be examined and the enclosure that allows for insulation and weather protection graphically shown. Firing the oven will proceed concurrently with the structural workshop so that participants can see both the firing technique and the ease and efficiency of wood-fired brick ovens. Finally, cooking and baking in the oven will culminate the workshop. Since food-memory lasts longer than most other information recall categories, ending with a feast will cement the knowledge acquired. To learn more visit: [truebrickovens.blogspot.com](http://truebrickovens.blogspot.com) to view posts related to brick oven building and cooking.

### 11:00 - 12:00 Community Bread Sharing

Open sharing of your home-baked breads, favorite recipes and baking tips.



## **1:00 Baking Artisan Sourdough Bread**

*John Mellquist, Trukenbrod Mill and Bakery, Vershire, Vermont*

We will teach the methods used at Trukenbrod Bakery for producing whole wheat and rye breads. Topics include baker's percentage, sourdough culturing, mixing and shaping, and baking in both wood-fired and electric ovens. Recipes for several kinds of whole grain bread will be provided.

## **3:00 - 5:30 Five Thousand Years of Bread**

*Abdullah Jaradat*

This seminar will present an overview of wheat domestication and biodiversity, and provide practical knowledge and skills to restore and improve wheat landraces for local adaptability, gourmet organic markets and artisan products. We will cover the basics of wheat genetics, how to conduct an on-farm breeding program, with guidelines to reinvigorate community seed systems, and build market partnerships for high quality organic products. We will cover:

- Modern Wheat System: The current decline in wheat's genetic diversity due to industrial farming, the loss of traditional knowledge, and how this has impacted agroecosystem services, nutrition, cuisine and local food systems.
- Landrace Wheat: What climatic, water and soil factors threaten future wheat yield and quality, and how genetically diverse wheat landraces offer resilient traits to adapt to unpredictable climate change weather extremes.
- On-Farm Breeding Basics: Using landraces to develop new foods and new products, and how this information can develop more resilient varieties and cropping systems.
- 
- Building Community Seed Systems: What genetic resources are available to farmers, where to obtain seed and tips to build farmers' breeding networks and seed exchanges.

## **6:00 Potluck Dinner at Katywil Farm Community**

Join us to tour the Katywil Community Oven built with local stone masons, cob crafters and timber framer extraordinaire, for a culminating discussion on Food and Community Building: [Katywil.com](http://Katywil.com) \$10. donation if you do not bring a potluck contribution.





## **Ecological Grain Production - Less is More**

*Eli Rogosa*

*Ecological Grain Production (EGP)* is a method to increase the productivity of wheat by enhancing the ecological dynamics within the soil, plants and cropping systems, creating healthier, microbially-rich soil, more robust plants with extensive root systems, and greater biodiversity in the whole farm cropping system; resulting greater adaptability to climate change stress and higher quality grains.

The key practices of *Ecological Grain Production* include:

- **soil** - incorporating compost and organic matter
- **seed** - wider spacing to encourage extensive root growth combined with use of landraces and gene pools with on-farm selection of the healthiest plants saved for seed,
- **cropping systems** - incorporate cover crops prior to seeding wheat and intercrop
- **community seed systems** - save and exchange seed of plants that thrive in your region

The benefits of EGP include: increased yield, a reduction in seed requirements (up to 90%) and water savings. We have observed a reduction in pests, diseases and lodging due to wider spacing and larger plants. Environmental benefits include a reduction of agrochemicals, water use and methane emissions that contribute to global warming.

Our method integrates ecological soil management with ecological plant breeding with community food systems. A vital soil system nourishes larger root systems. With wider spacing and good soil tilth, wheat roots grow deeper than in conventional dense spacing, producing larger, higher quality grains. Wider spacing stimulates extensive root growth that enables the plant to better survive the drought, heat and rain extremes of climate change.

**Seeding Rate** - We have found that planting *one seed per foot gives the best yield for the tall landraces bred in our program*. This translates into 5 pounds per acre. For medium-sized wheats, plant one seed every 8"; ie: 12 pounds per acre, 6" spacing - 20 lbs per acre would be the maximum rate to achieve the benefits of this system.

The deeply rooted plant can reach deeper soil moisture, a critical mechanism to avoid heat stress, and stabilize the plant, decreasing lodging in rainy weather. Seeds should be planted at a depth of 1.5 and 2 inches deep. Three weeks after planting the wheat under-sow with clover to suppress weeds in fall or frost seed clover in early spring. As young seedlings interact with the soil environment, they generate more tillers if there is ample root space, good tilth and soil nutrients. Heritage varieties can grow up to 25 to 50 strong tillers, each with a large seedhead with ample nutrients, root space and good tilth around each seed, while still maintaining competitive protein levels for artisan grain products.

For information on 'Northeast Organic Wheat', see : [growseed.org](http://growseed.org)

## Contacts

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