

# Grain Husbandry



## *Awakening Wheat's Potential*

*Canaan Rouge 9" long seedhead with fat seeds. Wide spacing in organic soil develops roots more fully, enhancing nutrient uptake, nourishing taller plants for increased photosynthesis that imparts richer flavor.*



## *Landrace Wheat Trials at UMass,*

*'In 1868, Mr. J.P. Nelson sowed 11 lbs of wheat evenly on one acre. He reports, 'The wheat grew luxuriantly beyond anything I ever saw, at least 40 stems each with good heads from one root.' Although the seeding was excessively light compared to typical rates of today, the yield was quite above average. A lighter seeding rate not only gave the largest yield, but the finest quality. It was by far the heaviest in weight and had the least disease.'*

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Ecological Wheat Systems to enhance:

biodiversity, productivity,  
climate resilience & terroir

growseed.org

# Grain Husbandry

*is an approach to increase the crop productivity and social value of wheat by enhancing the ecological dynamics within the soil, plant and human systems. Our method adapts age-old traditions of husbandry and seed-saving to evolve resilient local systems as we face unprecedented climate change and globalization.*

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*Landrace wheat at 12" spacing produce  
30+ tillers per plant*

**SARE-funded Research Results** - After three years of landrace winter wheat breeding-trials, we observed more stable yields under weather extremes, less lodging under heavy rain, greater tolerance to drought measured by wilting and robustness, lower water demand, greater weed competition due to height and root exudates, a reduction in seed needs (up to 95%), with increased farmer pride and local brand identity.

**Grains for Health** - Modern wheat has increased in gluten toxicity. Selected landrace wheats have less celiac toxicity, higher nutrition and richer flavor. Ancient hulled einkorn is safe for some gluten allergies.

**Benefits** of ecological wheat systems include: reduction of agrochemicals that contribute to global warming, richer flavor, good protein levels, less disease, resilience for stable, competitive yields under climate change extremes and community seed systems.

## Grain Husbandry practices include:

### **Living Soil**

Living soil rich with compost and minerals, in a rotation of vegetables and cover crops, gives wheat the balanced fertility it needs. A vital soil system nourishes larger roots that reach lower soil moisture to avoid heat stress, and stabilize the plant in heavy rain. Robust plants get less disease.

### **Wider Spacing**

Awaken the full potential of the plant: Grow landraces and mixtures in living soil at 12" space (5 lbs/acre). Select a diversity of the healthiest fat seedheads to save for seed. Plant at 8" spacing (12 lbs/acre) for field production. Broadcast clover in early spring to suppress weeds. Wide spacing nourishes deeper roots for better survival under drought, heat and rain extremes. Closer than 8" - fewer tillers, shorter, more disease and lower productivity.

**Perennial** wheat-type seeds can be sown in clover bed at wide spacing in a natural Low-Till System. Contact us for seed and guidelines.

### **Biodiversity and Seed-Saving**

Landraces are genetically diverse, indigenous seeds selected by traditional farmers over millennia to be well adapted to local regions. Selective seed-saving has been the responsibility of farmers since the dawn of agriculture, however this knowledge is almost forgotten. As farmers rediscover the power of seed-saving, new locally-adapted landraces for organic farms can emerge.

### **Local Terroir**

On-farm seed-saving evolves unique varieties for your farm and markets that celebrate 'terroir' - the history of the grain, taste-of-the-land and farmer in their community. Seeds exchanges foster community seed systems.

*For landrace seed, contact the Heritage Grain Conservancy:*

*[growseed@yahoo.com](mailto:growseed@yahoo.com)*