

Brix Bounty Farm

Growing Nutrient Dense Foods (Mar 2009)

"[the foundation of health] is diet and the nutritional integrity of the food we eat and the nutritional integrity of the soil upon which the food is grown. To me, this is real medicine..."

(Dr. Arden Andersen, Real Medicine Real Health)



The era of "industrial agriculture" has greatly increased the total quantity of calories produced on farms in the United States; unfortunately this increased production has been built upon unsustainable growing practices. These practices include (mentioning just a few): 1) a reliance on fossil fuels for inputs, 2) a heavy use of chemical pesticides, herbicides, and fungicides, and 3) tillage and soil management practices that result in widespread soil erosion.

Unfortunately, this increase in quantity has been accompanied by a simultaneous decrease in quality. We have experienced widespread nutrient decline in our grains, fruits, and vegetables. This decline has been well documented (see "Still No Free Lunch" by Brian Halweil) over the past 5 years. This decline is attributed to a number of factors especially long-term soil degradation, and breeding crops for size and shipping quality instead of flavor and nutrition.

Minerals and nutrients are naturally distributed throughout the globe by three methods: 1) volcanism 2) glacial deposits and 3) siltation from erosion and floods. Some nutrients are held in the soil, either in organic matter or attached to soil colloids. Overtime rock and other parent material will degrade to increase nutrient availability in the soil; but this build up will be offset by losses due to crop uptake and leaching due to precipitation. Northeast soils are often acidic; a low pH usually indicates hydrogen has replaced calcium and other nutrients in the soil.

What Can I Do?

1. Take an annual soil test to measure the amounts and balance of nutrients in the soil. If possible, also submit a soil test to a lab that performs weak-acid tests such as Int'l Ag. Labs to gauge available nutrients.
2. Use fertilizers, amendments, and soil practices that build up soil biology, balance the minerals, and create the ideal physical structure. Examples include hi-calcium limestone and soft rock phosphate, as well as other organic and/or rock mineral fertilizers.
3. Include a focus on available Calcium (Ca) and Phosphorous (P) levels in the soil; Ca levels impact the availability of other soil nutrients and Phosphorous is a catalyst necessary for photosynthesis.
4. Purchase a refractometer to measure the brix (dissolved sugar levels in a liquid, a gauge of photosynthetic activity which is often correlated with overall nutrient density) levels in the plant and fruit.
5. Visit one of the websites below to learn more about techniques and tips for growing nutrient dense food.

Brix Bounty Farm

858 Tucker Road, Dartmouth, MA 02747

508.992.1868 derekchristianson@gmail.com <http://brixbounty.blogspot.com>

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Resource List (*Links Current as of Mar 2009*) *organizations that have a specific focus on nutrient density
Acres U.S.A. – A Voice for Eco-Agriculture. \$27/Year <http://www.acresusa.com/magazines/magazine.htm>

Northeast Organic Farming Association – Massachusetts Chapter (NOFA-Mass) - <http://www.nofamass.org/>
Organization dedicated to promoting organic food production and land care. They hold conferences and workshops for organic farmers, gardeners, and consumers. Publishers of annual Organic Food Guide.

“Real Medicine, Real Health” by Dr. Arden Andersen. Holographic Health Press. 2006

Southeastern Massachusetts Agricultural Partnership (SEMAP) - <http://www.umassd.edu/semap/> They publish a local food guide for Southeastern Massachusetts, available for free in print and online.

“Still No Free Lunch: Nutrient Levels in U.S. Food Supply Eroded By Pursuit of High Yields”
by Brian Halweil. Worldwatch Institute. 2007. Free online at <http://www.organic-center.org/science.nutri.php>

*The Real Food Campaign - <http://www.realfoodcampaign.org/> - Join an effort to support nutrient dense food production. (website currently in production) In the future they will offer a refractometer with paid membership.

Soil Testing (Labs and Supplies):

University of Massachusetts-Amherst – Soil and Plant Tissue Testing Laboratory -
<http://www.umass.edu/plsoils/soiltest/> ph: 413-545-2311: \$13 for basic soil test.

*International Ag. Labs, MN - <http://www.aglabs.com/> ph: 507-235-6909 - a private lab offering more detailed soil testing (\$50 per sample), following ideas developed by Carey Reams, they have a website with great information and maintain a separate website (<http://www.highbrixgardens.com/>) with more resources.

*Pike Agri-Labs Supplies, Inc, ME- <http://www.pikeagri.com/> ph: 866-745-3247 – Retailer of soil and plant testing equipment (including refractometers and conductivity meters), they also have a good selection of books.

Soil Amendments (Fertilizers): *We suggest working with your local fertilizer dealer/garden store to purchase amendments; locally sourced amendments are preferred where available.*

FEDCO – Organic Growers Supply, ME <http://www.fedcoseeds.com/ogs.htm> ph: 207-873-7333 Great Catalog.

Fieldworks – 61 Hixbridge Road in Westport, MA is beginning to carry organic amendments; possibly including New Bedford made Organic Gem Fish Fertilizer. <http://www.fieldworksct.com/> ph: 508-636-9336

Marvin Grain – 31 Cove Road, Dartmouth, MA 02748. ph: 508-993-7672

Northeast Organic Farming Association, NOFA- Mass Bulk Order - orders due in Jan., fertilizers, seeds, more.

*Lancaster Agricultural Products, PA <http://www.lancasterag.com/> ph: 717-687-9222 good catalog+fertilizers.

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