

The Finances of Vegetable Fertility

WHERE TO FOCUS YOUR FERTILIZER DOLLARS ON NEW LAND

DEREK CHRISTIANSON - BRIX BOUNTY FARM

HTTP://WWW.BRIXBOUNTY.COM

DEREKCHRISTIANSON@GMAIL.COM

2017 SEMAPAG & FOOD CONFERENCE SUNDAY FEBRUARY 26, 2017 - DIGHTON, MASS

Brix Bounty Farm – Dartmouth, MA

~7 acres veg Started in 2008

Direct marketed Farmstand CSA Market

Farming since 2002



Fertility – One Part of Whole System

Profit = Income – Expenses (Wiswall, Richard)

- Crop Planning
- Bed Preparation
- Planting & Transplanting
- Weed Management aka Cultivation
- Water Management
- Harvest, Post Harvest, and Marketing

Fertility – Impacts Yields... a worthwhile Expense?

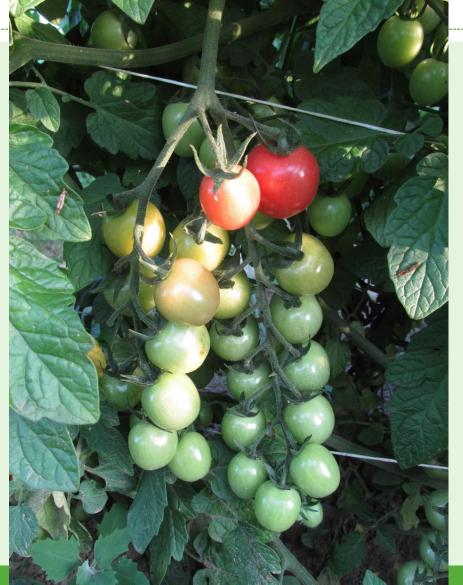
Finances of Vegetable Fertility - Overview

Prior Land Use and Crop Performance Reading Soil Maps – Web Soil Survey Expected Yields Resource: New England Veg Management Guide Soil Testing & Interpretation Nutrient Budgeting – Nitrogen Example Creating a Fertility Plan "Outcome" Testing – Single Variable Trials Amendment & Fertilizer Resources

Focusing our Lens: Profitability through Fertility

At Brix Bounty: We emphasize fertility investments to ensure our labor investments are well rewarded...

Sun Peach Tomatoes July 15, 2016





Perspective - Initial Investments and R.O.I.



Return on Investment

Capturing & Converting Solar Energy

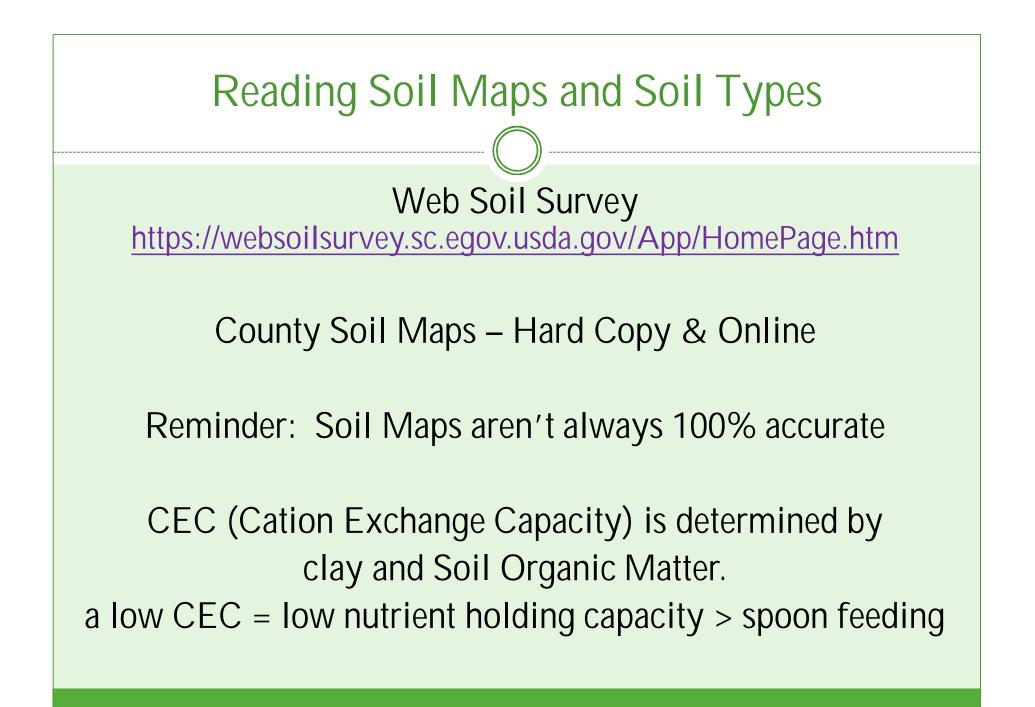
Red Cabbage June 3, 2016

Crop Evaluation • Examine Your Crops aka "Read the Field" Healthy vs. Stressed Growth ? Pests, Diseases, Low Yields?

Prior Land Use & Crop Performance

Geology, Climate, & Human Impact > Soil Potential

- Conventional Corn Silage
- "Worn-out Hay Fields"
- Brush & Early Successional Woods
- Your Scenario _____



Expected Yields

Focus on Nitrogen <u>and</u> Calcium Potassium for fruiting crops and root crops

<u>Alternative Strategy</u> Crop Density and Plant Spacing

Crop Signaling

Red Thumb Fingerling Potatoes, July 2016





Nutrient Recommendations for Different Crops

Good Place to Start, Review Nutrient Demands

e.g. High Demand for N & K – Celery https://nevegetable.org/crops/celery-and-celeriac

A Tool: Soil Testing & Interpretation

Umass Soil Lab – Modified Morgan Analysis – Recommended for considering Available P http://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory

Logan Labs – Mehlich-3 Analysis ("bank account") Bionutrient Food Association - <u>http://www.bionutrient.org/soil-test</u> \$30 for Base Plus – includes cobalt, molybdenum, selenium, silicon

Comparison 3 tests from UMass: Old Hayfield (A), Old Corn Silage (B), Mature Veg (C)

Nutrient Budgeting: Nitrogen Worksheet

See Worksheet (per acre example)

Total Nitrogen Needed

(minus) Organic Matter Credits (minus) Soil Biology Credits (plus/minus) Crop Residue/Carry Over

Nitrogen Needed to Import (or Apply)



Focus on Quality – Full Spectrum Priorities

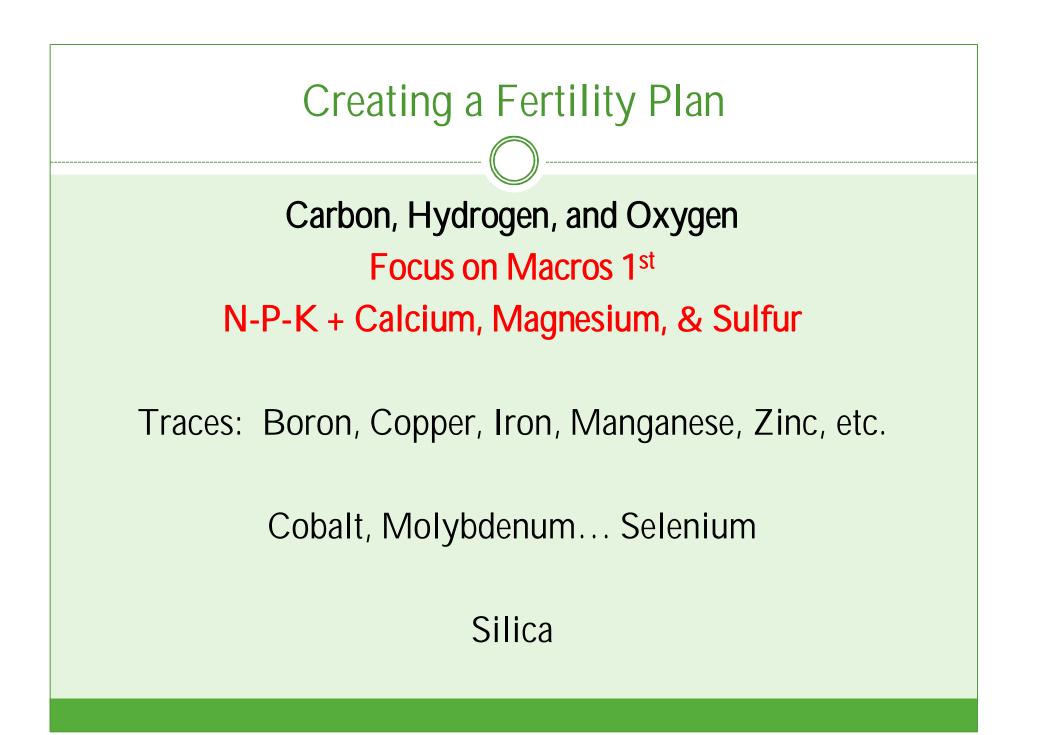


Suggested to Prioritize Calcium and Phosphorous?

Calcium required for all plant cells = Quality Growth

> Phosphorous = Crop Energy especially early season

Lettuce Mix - April 26, 2016 (2 weeks after transplant)





Initial Fertility Amendments October 2015

3 Month Prior

Fertility Perspective through Time

Early Years may require: Major initial upfront investment (e.g. high compost market garden)

Using Liquid & Soluble Nutrients (e.g. Organic Gem fish fertilizer, Bio-Link Trace Minerals)

Fertility investment approach <u>depends</u> on projected income, longevity of tenure, local resources, etc. Outcome Testing: a case for "Single" Variable Trials

Prove a Crop Response with Single Variable Testing for your Soils and your Crops... include a focus **on balance**

For Example... Potatoes are known to have a high demand for potassium (K).

Split 1 bed in 2 parts (a) and (b)...

(a) Control – follow standard fertility plan

 (b) Add 100#/acre potassium sulfate + 10#/acre QB-10 (Boron) monitor crop yields and performance
 Similar K "tests" possible for beets, celery, tomatoes, etc.

Develop a Plan & Remain "Nimble" Adjust in Season

2016 Onion Crop ... it was dry

At Brix Bounty our N budget for the season included alfalfa meal composted chicken manure, and crab meal plus a starter of Chilean nitrate

Sidedressing b/c dry conditions decided > additional Chilean nitrate Sierra Blanca Onions June 29, 2016



Amendment & Fertilizer Resources

Progressive Grower (West Wareham) Kreher's, Lancaster Ag, Fertrell, etc.

Organic Gem (Liquid Fish in New Bedford)

NOFA/Mass Bulk Order (deadline Jan 31 each year)

Bionutrient Food Association – Mineral Depots Crop Production Services Fedco Organic Growers Supply

Thank You

For more information on this presentation contact:

Derek Christianson Brix Bounty Farm 1 Seth Davis Way Dartmouth, MA 02748 508-992-1868 derekchristianson@gmail.com





FRESH VEGETABLES & COMMUNITY EDUCATION