Early Spring
Vegetable Gardening

Cynthia Sandberg
Love Apple Farms
www.LoveAppleFarms.com
In Class Today

Please keep talking to a minimum to allow your fellow students to hear the lecture.

What this class doesn't cover:

● Summer vegetables
● Every possible method of organic gardening
● Culinary uses of veg
Class Structure

- What is the intention of this class?
- Soil preparation
- Seeds vs transplants
- Bed amending
- Irrigation
- Pests
- Discussion of individual veg needs
- Sowing of flat
- Discussion of how to germinate flat
What is Early Spring Gardening?

• Getting something going now in anticipation of your summer garden

• Integrating cool-weather lovers into your summer garden

• Preparing for your full summer garden
**SOIL TEST REPORT**

Any Producer  
120 Scenic Road  
Any Town, USA  

Water pH indicates the acidity of your soil. Most plants grow best at a Water pH between 6.1 and 6.5. If Water pH is too low, a lime recommendation will be given if your crop (or plant) desires a higher pH.

**Count: Henderson**  
Lab Number: 4959056

<table>
<thead>
<tr>
<th>Sample</th>
<th>Water pH</th>
<th>Buffer Value</th>
<th>Phosphorus</th>
<th>Potassium</th>
<th>Calcium</th>
<th>Magnesium</th>
<th>Zinc</th>
<th>Copper</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>5.8</td>
<td>7.7</td>
<td>28 M</td>
<td>190 H</td>
<td>1257 S</td>
<td>64 + S</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Buffer Value is reported when the Water pH is too low or a lime recommendation is indicated. This value is a tool to help provide a lime recommendation suitable for your soil.

**Mehlich 1 SOIL TEST RESULTS and RATINGS* (Pounds Per Acre)**

<table>
<thead>
<tr>
<th>Sample</th>
<th>N / P₂O₅ / K₂O</th>
<th>Limestone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>120-400 / 40-80 / 40-80</td>
<td>2 tons per acre</td>
</tr>
</tbody>
</table>

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of Limestone is recommended both broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre or pounds, use 4 tons of lime per acre and re-test after one.
Soil pH

- Rainfall causes soil acidity
- Add lime to raise pH
- Add sulfur to lower pH
Importance of Soil pH

- Most veg want a pH between 5 and 7
- 6 is a great pH for most veggies
- Your pH could be way off
- Plants cannot uptake nutrients when pH is skewed
Importance of N-P-K: Macronutrients

- **Nitrogen (N):** Green growth
- **Phosphorus (P):** Root growth and flower/fruit production
- **Potassium (K):** Overall plant health
Purchased Top Soil
If you Need to Add Soil to a Garden Box

- Don’t use potting soil
- Buy good top soil blend by the yard or…
- 50/50 Mix of G&B Planting Mix and Raised Bed Mix
- Do your best to mix this with your native garden soil
Bed Amending Recipe

For a 50 square foot bed:

- One barrow homemade compost OR 1 bag G&B Harvest Supreme
- 1 quart G&B 4-6-3 Tomato, Veg, & Herb Fertilizer
- 1 quart pure Worm Castings

Double up if your soil is poor
Bed Amending Step by Step

- Sprinkle all amendments evenly on top.
- Turn amendments into soil using a spade fork.
- Rake smooth.
Transplanting Starts

- Plant offset with appropriate spacing
- Plant a little deeper in ground than they were in pot or flat
- Don't compact soil
- Water more than you think first time
Siting Plants Based on Height at Maturity

- Sun moves across Southern sky
- Place plants that will be taller on North ends of beds
- Place plants that will be shorter on South ends of beds
- Proper siting is essential for max growth on short winter/spring days
Direct Sowing Root Vegetables or Greens

- Sow seeds 1 per sq inch
- Cover w/ 1/4 inch of soil
- Don't let surface dry out
- Use floating row cover
- After a month, thin to spacing you prefer
- Use thinnings as flavorful, unusual garnish
Let’s go outside for some demos
Irrigation

- Winter watering
- Drip irrigation
- Hand watering
- Overhead watering
Organic Pest Control

● Be an observant gardener - inspect leaves on regular basis
● Act on an issue immediately with appropriate controls before the population gets out of control
● Organic controls must be reapplied
● Remove overpopulated plants and dispose of responsibly
● Use preventative methods
  ○ Proper spacing in between plants
  ○ Proper watering with irrigation
  ○ Weed control
Pests of Early Spring Garden: Aphids

- Green, Black, Red, Grey
- Watch for curling leaves
- Organic pesticide: Pyrethrin
- Organic preventative: Garlic spray
- Beneficial bugs: Lacewing, Ladybug
- Washing off with water doesn’t work
Cabbage Looper Moth

- Hand pick
- Organic pesticide: Spinosad
Leaf Miner

- Beets, chard, and spinach are most susceptible
- Remove affected leaves and feed to chickens or seal in bag and dispose
- Rub out egg sacs
Slugs, Snails, Earwigs, and Pillbugs

- Sluggo
- Beer trap
- Diatomaceous Earth
Let's Talk About What You Will Be Sowing Today
Arugula

- Spicy leaves and edible flower
- Can be directly sown
- One foot tall or 3' tall if flowering
- 4” spacing. Can be transplanted out individually or in bundles of 3 or 4 plants per hole.
Chrysanthemum Greens

- Carrot-y taste
- 3' - 4' tall
- Edible flower
- Pest-resistant!
- Spacing 12” apart
Mustard & Mizuna

- Mild spicy flavor
- One foot tall
- 4” spacing. Can be transplanted out individually or in bundles

Ruby Streaks Mustard

Purple Mizuna

- Edible yellow flower
- Can be directly sown, thin to 2" for smaller leaves
Spinach

- Frost tender - have frost blankets on hand if garden is in area with frequent frost
- Low growing - 1/2' tall
- 4” spacing. Can be transplanted out individually or in bundles of 3 or 4 plants per hole.
- Cut individual leaves to allow rest of plant to continue to grow and produce more leaves
Kale: The Super Food

- Very productive, long-lasting crop
- Susceptible to aphids - act quickly!
- Can be sown directly and thinned to 4" apart
- 1' - 3' tall

Toscano (aka Black, Dino)  Red Russian
Rainbow Chard

- Aka Swiss Chard, Silverbeet
- Susceptible to aphids and leaf miners
- Harvest leaves small (to eat raw) or large (to cook down).
- Space about 8” apart
- Cut individual leaves rather than whole plant.
Care for Loose Leaf Greens

- Arugulas, chrysanthemum greens, mustards, cress, spinaches, lettuces, kales, chard
- Transplant in bunches of 3 - 4 plants or individually
- Can be potted up (pricked out) into 3" or 4" pots and then transplanted into garden
- Or can go directly into garden (use Diatomaceous Earth or Sluggo around young, tender plants)
- Space bundles 4" - 6" apart
Harvesting Loose Leaf Greens (other than spinach and lettuces)

- Harvest leaves individually rather than clear cutting
- Harvest outer (older) leaves close to base of plant to stimulate inner (younger) leaves' growth
- Harvest a few leaves from each bunch of each of your greens each night for a beautiful, flavorful, salad mix
  - Add edible flowers to salad for extra color and flavor!
Lettuces

- Can be transplanted individually 8" apart for full lettuce heads
  - Heads will regrow eventually if sheared down to the ground.
- Can also be transplanted in bunches of 2 - 3 plants with bunches 4" - 6" apart for loose leaves
- Like spinach, lettuce is also frost tender and will need a frost blanket on nights forecast to be 32 degrees or below.
Broccoli Raab

- Prick out individually, 8" spacing
- Produces small broccoli-looking shoots
- Harvest long stems with leaves and buds - both edible
- Flowers quickly in warm spells
- 2' tall
Hon Tsai Tai

- Prick out individually, 8" spacing
- Produces small purple broccoli-looking shoots
- Harvest long stems with leaves and buds - both edible
- Flowers quickly in warm spells
- 2' tall
Red and Green Bok Choi

- Boc choi comes in both green and purple (red) colors
- Aka pac choi, bok choy, pac choy
- Prick out individually
- Plant 8" apart
- Harvest outer leaves continually, or full head.
- 12-16” tall
Tatsoi

- Aka rosette bok choy
- Plant and harvest same as Red Bok Choi
- Young tender leaves great in salads
- Low growing - grows out instead of up
Kohlrabi

- Fast growing brassica
- Must sow in flats & pot up before transplanting to garden
- Space 4-6” apart
- Gets 1’ tall
- Harvest when tennis-ball size
- Doesn’t need staking
Onions

- White cipollini style - small, flattened bulbs
- Pearl Drops: Small round
- Torpedo shape - purple
- Scallions
  - Plant in rows 4” apart
  - In rows, plant each onion 2" apart or in bundles for scallions
- Bigger onions require different spacing
Chervil

- Lacy leaves
- Licorice flavor
- Plant like loose leaf greens
- Edible white flower
- Low growing
Cilantro

- Aka Coriander
- Cool-weather lover
- Bolts quickly in warm weather
- Can sow directly
- Edible white flowers - one of chef's favorite
- Let seeds dry on plant and save seeds for cooking or resowing next crop
- Plant like loose leaf greens
- 6" tall leaves
- 2' - 3' flowering
Cress

- Delicate and tasty “spicy” green. AKA “Pepper Cress”
- Small white edible flower
- 8” height
- Can directly sow or start in flats and plant out in little bundles of 2 to 6. About 6 to 10” apart from each other.
- Edible white flower
Bush Snow Pea

- Edible pod
- 30” tall
- Trellis with small tomato cages
- Edible flower
- Plant individually or in pairs, 6" apart
Bush Shelling Pea

- Aka English peas
- Inedible pod
- Peas inside pod are harvested
- Plant individually or in pairs, 6" apart
- Trellis with small tomato cages
- 2' tall
- Edible flowers
Sugar Snap Pea

- Edible pod with large peas inside
- Edible flower
- 3' tall - need short tomato trellis
Fava Bean

- Aka broad bean
- Edible leaves, flowers, and beans
- Need staking with tall tomato cages or tall posts around bed and string around perimeter
- Susceptible to aphids and powdery mildew
- 5' - 6' tall
- Shuck “twice”
<table>
<thead>
<tr>
<th>MUST DIRECT SOW</th>
<th>EITHER (direct or in flats)</th>
<th>MUST SOW IN FLATS &amp; POT UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrot</td>
<td>Lettuce/Spinach</td>
<td>Bok Choy</td>
</tr>
<tr>
<td>Beet</td>
<td>Arugula</td>
<td>Tatsoi</td>
</tr>
<tr>
<td>Turnip</td>
<td>Kale</td>
<td>Kohlrabi</td>
</tr>
<tr>
<td>Radish</td>
<td>Broccoli Raab/Hon Tsai Tai</td>
<td></td>
</tr>
<tr>
<td>Parsnip</td>
<td>Chard</td>
<td></td>
</tr>
<tr>
<td>Rutabaga</td>
<td>Mustard greens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fava</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leek and onion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cilantro</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peas and beans</td>
<td></td>
</tr>
</tbody>
</table>
Flat Sowing Instructions

- Sow 3 or 6 cells of each type of vegetable
- Don't poke seeds into soil or make a divot
- Only use as many seeds as what is written on jar
- Space seeds apart evenly apart in each cell
- Half labels, pencil only, push label all the way down
- Seeds will go around several times
- Only have 1 container open at a time
- Put lids back on tight after selecting
Flat Germination

- Will send instructions as attachment to links list
- Probably will go straight to your SPAM folder!
- At home water flat three times
- Put inside a plastic kitchen trash bag, leave on heat mat
- Check each day for germination
- First seed that germinates, remove plastic and start to put out into sunlight each day
- Bring in at night, put out into direct sun each day
- Should begin to pot up or plant out within 4 weeks
Frost Protection

- Have frost blankets on hand BEFORE forecast of frost
- Pay attention to weather forecast each night
- Best practice: take min-max temp reading and record them to figure out last frost date in spring and first frost date in fall
- Cover beds with blanket in evening if frost forecast
- Uncover in morning (don't leave on during day)
- Most of these cool-weather lovers can take a few degrees below 32
Supplemental Fertilizing

- Plants will need additional fertilizer, particularly if yellowing
- Best fertilizer: Worm Casting Tea
- Recipe: Big handful of castings in a 5 gallon bucket of water
- Let sit for two days. Even better if drop an aquarium bubbler in bucket.
- Strain through cheesecloth or FRC or strainer and apply to plants with a watering can or garden sprayer
- Do twice a month during growing season
- WCT has been shown to: increase fertility, reduce incidence of disease and reduce bug stress
Order of Operations

- Start flat germination tonight
- Purchase soil amending tools and supplies
- Purchase transplants and direct-sow seed packets
- Prep your beds
- Direct sow root veggies
- Direct sow leaf veggies
- Meanwhile, take care of class flat
- Pot up or transplant out in garden in 4 to 6 weeks
- Immediately protect with Sluggo Plus
- Thin direct sown veggies
- As plants finish their season, plant warm weather lovers in their place
- Transplant in early May: tomatoes, peppers, eggplants in sunniest spots
Upcoming Events at Love Apple Farm

- Cheese Making
- Growing Nightshades from Seed
- Fruit Trees
- Growing Tomato Transplants from Seed
- Designing the Perfect Vegetable Garden
- Summer Vegetable Gardening
- Bee Keeping
- Herb Gardening
- Container Vegetable Gardening
- Tomato Masters
- Drip Irrigation
- Compost & Worm Bins
Annual Spring Tomato Plant Sale - Biggest in California!
March 29
Pre-Sale Pick-up: March 28
Location: Ivy's Porch
5311 Scotts Valley Road, Scotts Valley