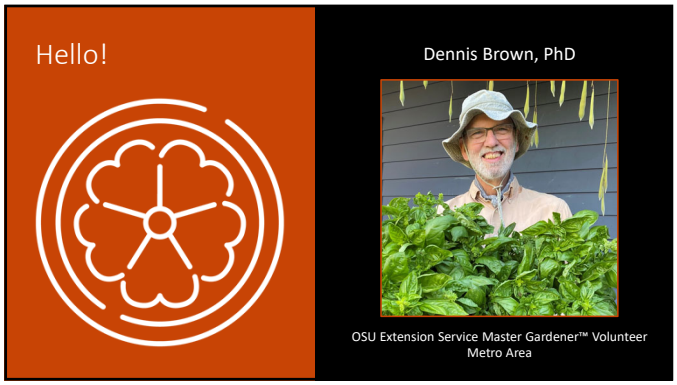

Oregon State University
EXTENSION SERVICE
MASTER GARDENER
METRO AREA
Garden of Eatin' !
Vegetable Gardening and
Seed Starting Tips for Spring

1


Hello!
Dennis Brown, PhD
OSU Extension Service Master Gardener™ Volunteer
Metro Area

2


Oregon State
UNIVERSITY
Extension Service
Oregon State University
Extension Service
Master Gardener™ Program
METRO AREA

3

OSU Master Gardener™ Mission

Cultivating resilient and healthy communities throughout Oregon through sustainable horticulture education and gardening projects that are rooted in science and that are supported by OSU Extension volunteers.

4

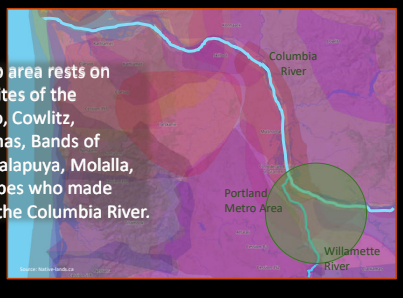
OSU Master Gardener™ Program

- Helps Oregonians grow healthy gardens
- Provides gardening information rooted in science
- More than 3,000 trained volunteers provide 200,000 volunteer hours and 250,000 contacts annually
- Requires annual volunteer recertification

5

Land Acknowledgement

The Portland Metro area rests on traditional village sites of the Multnomah, Wasco, Cowlitz, Kathlamet, Clackamas, Bands of Chinook, Tualatin Kalapuya, Molalla, and many other tribes who made their homes along the Columbia River.



6

Get Your Garden Ready to Grow!

- Select the Right Location
- Test and Amend the Soil
  - pH
  - Nutrients
- Develop a Planting Plan
- Seed Tape
- Growing Transplants
- Low-Cost Sustainable Pots

7

Site Selection

- Level Site or Lay Out Rows Perpendicular to Slope
- Good sun exposure
- Well-drained soil
- Avoid low spots
- Avoid conflicts with trees and other landscaping
- Near source of water

8

Sample and Test Your Soil

A soil sample will tell you what your soil needs to help your crop grow.

It provides information on the capacity of your soil to supply adequate nutrients and helps you select the correct mix of fertilizer and liming materials.

9

Collect a Representative Soil Sample

Materials

- Hori knife or trowel
- Mixing bowl (metal, glass or plastic)
- One-pint container with lid, such as a medium-sized plastic container from a grocery store
- Permanent marking pen

10

Collect and Analyze a Soil Sample

Sample Collection

- Multiple location composite
- Root zone: top 6 to 8 inches

Sample Analysis and Interpretation

- Macronutrients (N, P, K, Ca, Mg, S)
- pH
- Organic Matter
- Micronutrients

11

Soil Testing

Lab Testing

- Accurate
- Provides recommendations for amending soil with lime or sulfur
- Two-week turnaround time

Home Testing

- Low accuracy colorimetric method
- No recommendations
- Immediate results

12

Winter is a Good Time to Amend Soil pH

Pacific Northwest soils west of the Cascades are mildly acidic: pH 5.5-5.8

Most vegetable crops grow best at pH 6.0-7.5

13

Add Lime to Neutralize Acidity

Neutralize soil acidity; raise the soil pH

Supply calcium and magnesium

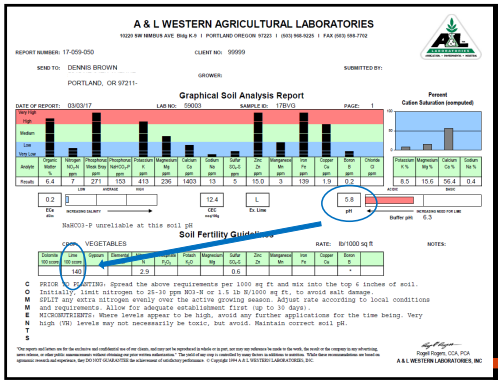
Promote root growth

Create an excellent environment for soil organisms that break down organic matter

Improve soil structure

Reduce damage from some soil-borne pathogens

14


A & L WESTERN AGRICULTURAL LABORATORIES

Graphical Soil Analysis Report

Soil Fertility Guidelines

Low pH
5.8

Recommendation
Add 140 lbs of '100-score lime' per 1,000 sq ft

15

How much lime should I add?

Soil test recommends 140 lbs 100-score lime per 1,000 sq. ft.

Lime product has an Oregon Lime Score of 90

My garden is 200 sq. ft.

(140/0.9) X (200/1,000) =
156 X 0.2 =

32 lbs per 200 sq. ft.

16

Home Soil pH Test

Materials

- pH test kit
- Soil sample
- Container of water
- Gloves (optional)

17

Soil pH Testing

Lab Testing

- pH only: $12 plus sample shipping
- pH, N-P-K, and organic matter: $15.
- pH, N-P-K, organic matter and micronutrients: $35.

Home Testing

- pH kit (10 tests): $7
- pH (4 tests) and N-P-K (2 tests each) kit: $8

18

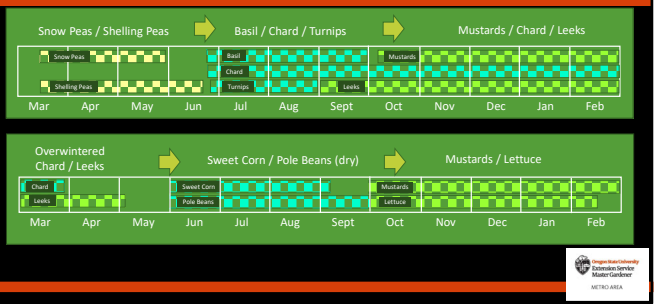
Develop a Planting Plan

- Seasonal production with a rest period during the winter
- Succession planting for multi-season or year-round production
- Plant Date →
  Days to Maturity →
  Harvest Period →
  Repeat for Next Crop →
- Disease Prevention

August
November

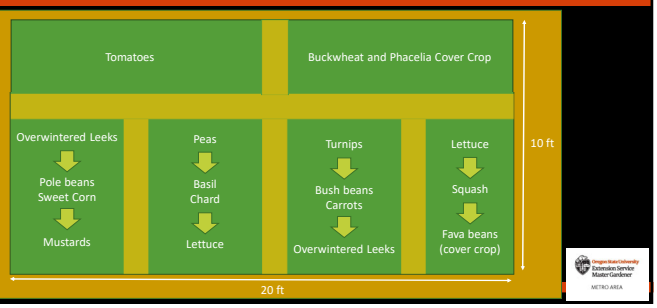
19

Develop a Planting Plan



20

Develop a Planting Plan



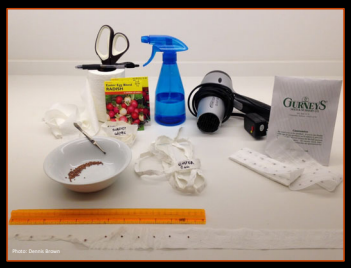
21

Seed Starting Techniques

Direct seed
Pre-sprout seeds
Use seed tape for small seeds
Grow transplants from seeds

22

Seed Tape Makes Planting Fast and Easy



Seeds embedded in paper tape make planting small seeds faster and easier.

23

How to Make Seed Tape

Materials

- Seeds
- Toilet paper
- Scissors
- Tweezers
- Shallow bowl or plate
- Rubber spatula
- Sharpie pen
- Water spray bottle
- Hair dryer (optional)

24

Temperature Effects

Plant based on soil temperature

Too cool: slow germination, low percent germination, seeds rot, nutrients less available (e.g., nitrogen)

Minimum temperatures:

- Lettuce, cabbage or pea: 40°F
- Beet, chard or potato: 45°F
- Bean, sweet corn or tomato: 65°F

Most seeds germinate best between 65°F to 75°F (18 °C to 24°C)

25

Transplants Give Your Garden a Head Start

Extend growing season

Better weed control

Avoid conflicts with other crops

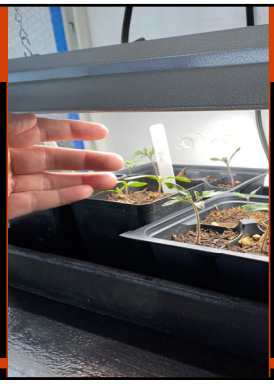
Wide choice of cultivars

26

Growing Transplants

Materials

- Shelving
- Light source and timer
- Heat source and controller
- Six packs or small containers
- Potting soil
- Seeds
- Labels
- Pencil or permanent marking pen



27

Transplant System Details

Lighting
- Four-foot fixture with two cool white, 14 watt, LED lamps
- Timer

Heat Source
- Four-foot, 60-watt propagation heating pad
- Temperature controller
- Thermometer

28

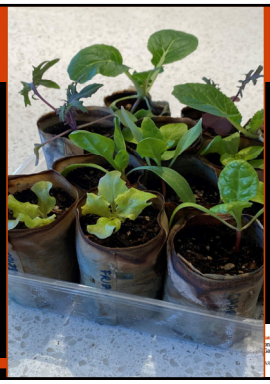
Low-Cost Transplant Pots

Use low-cost, widely available materials to make small pots in which to grow transplants.

29

Low-Cost Transplant Pots

Materials
- Small soda or tomato sauce can
- Plastic salad container or similar
- Newspaper
- Potting soil
- Seeds
- Skewer or large toothpick
- Pencil or permanent marking pen



30

Get Your Garden Ready to Grow!

- Select the Right Location
- Test and Amend the Soil
  - pH
  - Nutrients
- Develop a Planting Plan
- Seed Tape
- Growing Transplants
- Low-Cost Sustainable Pots

31

Resources

- *Growing Your Own.* OSU Publication EM 9027. April 2011.
- *Fall and Winter Vegetable Gardening in the Pacific Northwest* (PNW 548), P. Patterson, Oregon State University, University of Idaho, Washington State University, June 2001
- *Vegetable Gardening in Oregon.* OSU Extension Publication EC 871. August 2005.
- *A Guide to Collecting Soil Samples for Farms and Gardens.* Publication EC 628. Revised October 2018.
- *Analytical Laboratories Serving Oregon.* OSU Publication EM 8677. June 2017
- *Soil Test Interpretation Guide.* OSU Publication EC 1478. July 2011.

32

Where you can find us…

- On the web

www.metromastergardeners.org

- Twitter

@TheRealDirt

- Facebook

@MetroMasterGardeners

33

What questions do you have?

Metro Area Master Gardener™ Program

Oregon State University Extension Service

34

35