



# Organic Herb Gardening

*Erika Yigzaw B.Com, LL.B (Hons),  
Master Gardener*

# DIY?



---

[www.SherwoodLavender.com](http://www.SherwoodLavender.com) [www.achs.edu](http://www.achs.edu)

# No! GIY!



# Question?

What does the term “Organic Gardening” Mean to you?

- Natural (what does that mean?)
- Pesticide free (not necessarily?)
- Respects natural patterns?
- Remember that organic chemistry does not = organic agriculture!

# Distinguish

Between the National Organic Program (NOP) run by the US Department of Agriculture and the term as used in home gardening....

Organic Agriculture Federally Defined USDA National Organic Standards Board 1995: "Organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony."

# Organic Agriculture

Farming that mimics natural ecosystems and maintains and replenishes the fertility of the soil.

No use of synthetic chemical pesticides and fertilizers

Organic Foods –Grown and handled according to NOP standards –Minimally processed to maintain the integrity of the food without artificial preservatives or irradiation

Based on ecological principles –of the environment and the relations of organisms to each other and their surrounding



# Organic Home Gardening

NOP program defines organic extensively, but there is still confusion. Home gardening: Relates to source of products used and how they are derived

Lon Low Input Organic Gardening

# Why Go Organic?

Synthetic

Faster but non specific

Easily available (but now, so are organic alternatives)

Use by Home Gardeners: 100 million pounds  
-71 million pounds herbicide -17 million pounds insecticide/miticide -12 million pounds fungicides.

Health risks, risks to wildlife (leaches into waterways), cost, energy ... huge implications for sustainability...







# Ecological Approach

Ecology • Study of the environment and the relations of organisms to each other and their surrounding

Ecosystems • Collection of interacting organisms and non-biotic components in the physical environment

Look at the ecosystem in your garden...

## Key Concepts:

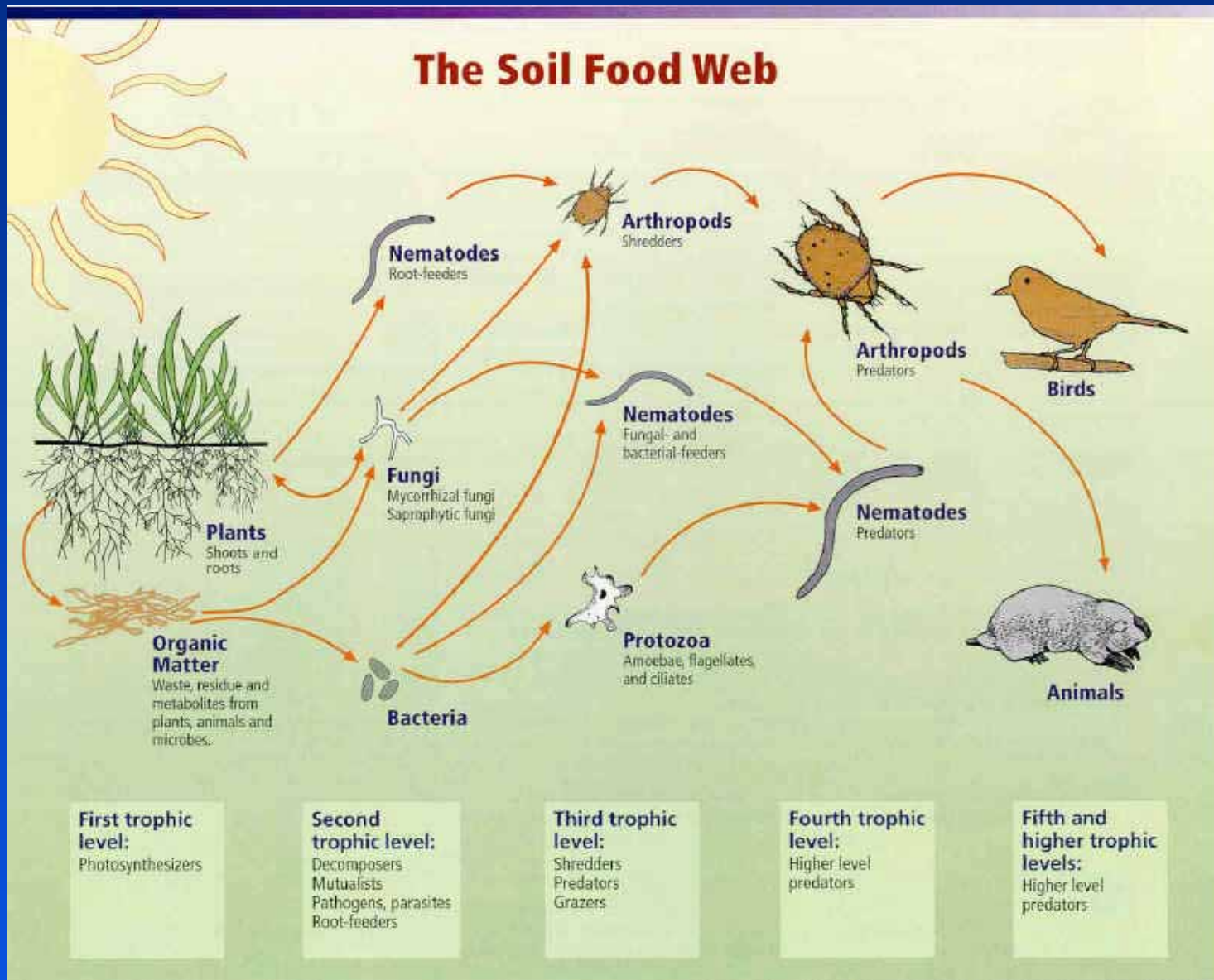
- Soil Building
- Conservation
- Biological Pest Management

# Soil Building and Tilth

Soil most important factor in organic gardening

Tilth

Compaction

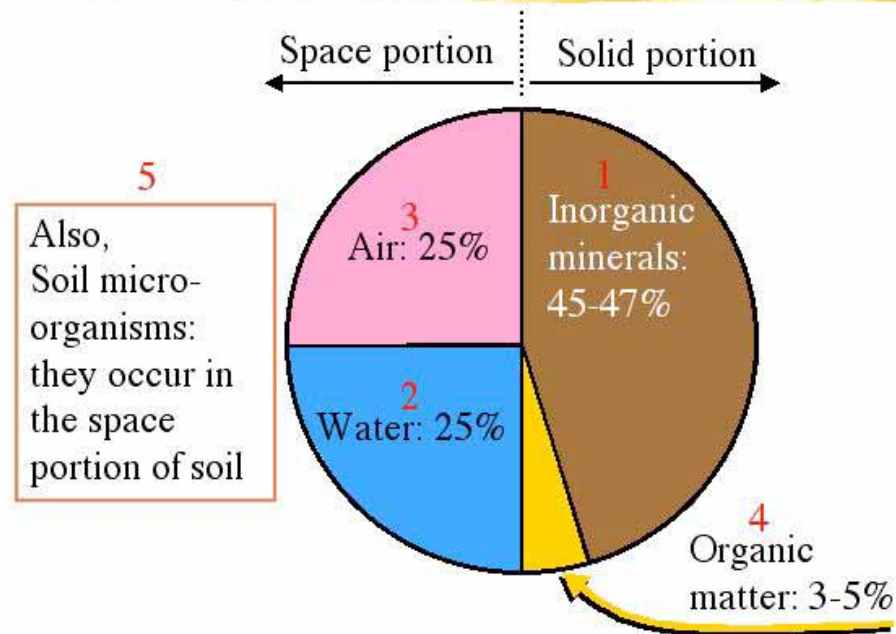


See [http://soils.usda.gov/SQL/concepts/soil\\_biology/soil\\_food\\_web.html](http://soils.usda.gov/SQL/concepts/soil_biology/soil_food_web.html)

[www.SherwoodLavender.com](http://www.SherwoodLavender.com) [www.achs.edu](http://www.achs.edu)

# What is Soil?

## 5 Soil Components - *Ideal Soil*



Source: <http://www.hort.purdue.edu/>

# How Do We Build Soil?

Provide food for soil biology

Feed the soil with organic matter

# What is “Organic Matter”?

*Low C/N ratio, high nutrient value:*

*raw manure, blood meal, feather meal, less contribution to organic matter, use sparingly, do not exceed N and P requirements*

*Medium C/N ratio, lower nutrient value:*

*compost, leaf mulch and cover crops, add in large quantities*

*High C/N ratio, can immobilize N:*

*straw, bark & sawdust*

# Fertilizer?

## Law of the Minimum

Whatever nutrient is in short supply will limit growth

Soil test... nitrogen an issue in OR because of rain levels....



# Nitrogen: How to Get It

# Nitrogen: How to Keep It



# Soil Organisms

Soil organisms break down the remains of plants and other organisms.

This process releases energy, nutrients, and carbon dioxide, and creates soil organic matter.

Organic gardening keeps soil organisms at optimal levels. Monocultures, synthetic fertilizers and pesticides destroy soil organisms.

# Organic Gardening Methods

Cover Crops

Compost

Deep cultivation

Fertilizing

Weed control

Mulch

Organic Fungicides

Organic Herbicides



# Cover Crops



# Compost



[www.SherwoodLavender.com](http://www.SherwoodLavender.com) [www.achs.edu](http://www.achs.edu)

# Make Your Own Compost



# Make Your Own Compost

See videos at [www.youtube.com/achstv](http://www.youtube.com/achstv)



---

[www.SherwoodLavender.com](http://www.SherwoodLavender.com) [www.achs.edu](http://www.achs.edu)



# Deep Cultivation



[www.SherwoodLavender.com](http://www.SherwoodLavender.com) [www.achs.edu](http://www.achs.edu)

# Fertilizing

USDA List of Approved Fertilizers

Always check cost ratio – some are very expensive for NPK levels

Organic Fertilizers (OSU Master Gardener Materials) Material % N % P % K

# Weed Control

Old fashioned weeding is the cheapest and most effective method: Weed after watering or rain, don't let weeds set seed (up to 100k seeds that can last 100 years!), hoe in hot weather and weeds will die, hoe when weeds are small.

Other methods:

# Mulch

Landscape fabric

- Plastic mulch –Black plastic  
–Purchase, disposal & irrigation
- Straw mulch –Weed seeds  
–Irrigation & nitrogen
- Sheet Mulch –Newspaper  
/cardboard



# Sheet Mulch

Cut existing material to ground –Add nutrients –Water –Thick newspaper –Thick mulch

Don't try with perennial weeds



# Organic Herbicides

Vinegar (acetic acid)

Clove/citric acid based

Herbicidal Soap: Contact herbicide and is non-selective. OK for annuals but not very effective for perennials

Corn gluten: Pre-emergent (i.e. supposed to stop weed seeds germinating) Not effective – Good N fertilizer

# Stale Seedbed Method

1. Plough or spade
2. Prepare seedbed
3. Irrigation or rain then wait 1-2 weeks
4. Flame, vinegar or herbicides, or very light cultivation
5. Repeat if possible
6. Plant or sow seed

# Managing Pests

Are organic alternatives to synthetic insecticides

Can still be toxic, so still take precautions when using

Other alternatives are to diversify plantings, use right plant for right place, choose adapted varieties, choose resistant varieties, build the soil (cover crops, compost, don't cultivate when too wet or dry), water correctly (adequate, in morning, drip not overhead to avoid spreading fungal diseases), feed adequately (compost or organic fertilizer), plants and habitats for beneficial insects, plant to allow some airflow, tolerate some damage, hand pick insects, rotate crops, use chickens!

Healthy plants resists pests and recover quickly & healthy landscapes prevent pest outbreaks



# Integrated Pest Management

## Principles of IPM

- Prevention
- Monitor the plants
- Identify the pest organism –learn life cycle (e.g. codling moth larvae emerge in March/April)
- Establish an acceptable injury level
- Manage the situation –Cultural –Biological –Chemical (organic and synthesized)
- Evaluation



# Organic Fungicides

Horticultural oils • Copper based • Sulfur • Serenade (*Bacillus subtilis*) • Baking soda (K) This is a peach tree grafted with two curl resistant cultivars. Cultivar 'Q 1-8' on the left and the cultivar 'Mary Jane' (with lots of curl) on the right.

See Materials Allowed for Organic Disease Management at [http://ipmnet.org/plant-disease/articles.cfm?article\\_id=44](http://ipmnet.org/plant-disease/articles.cfm?article_id=44)

# Organic Pesticides

- Azadirachtin-Neem • Bt-biological • Beauveria-biological
- Horticultural oils • Insecticidal soap • Iron phosphate-slugs
- Kaolin clay • Lime Sulfur • Pyrethrins • Rotenone • Spinosad-biological • Sulfur

With All Products • Label is the law • Identify plant and pest and confirm on label for allowed uses of products • Read and follow the directions! • Wear proper eye protection, mask, clothing, gloves, etc.



# Keys to Successful Organic Gardening

Choose the right plants – ones you like and ones that like your climate

Take care of your soil – don't plant directly into unworked ground, add lots of compost, befriend someone with a horse...

Allow for a diverse range of plantings – mix flowers and herbs in with your vegetables

Don't plant things when its too cold out

Don't work the soil when its too cold and wet

Have a sense of humor –

# Choose the right plants

## Hardiness

Different species and varieties have varying hardiness and each requires different treatment. *Find out your zone and choose plants that grow in that zone.*

This January 2008 snow falls on our one year old plants tested their hardiness. We will see how many plants were affected once the plants put on their new growth.

Photograph by Erika Yigzaw



## Attract beneficial insects

Lavender is one of many plants that attracts many beneficial insects, including bees, hoverflies, and butterflies.

In fact, bee keepers love putting their hives at lavender farms, as the lavender honey is delicious!



Bees on lavandin at the ACHS  
garden in John's Landing.

## It is great fun to grow your own food organically

Get kids and spouses involved – even the most hardened heart warms when picking the first spring peas!

## Gardens can be easy to look after

Grow what you like to eat. Don't waste time growing things that your family won't eat anyway.

Weed regularly, right after watering, and before weeds go to seed.





# Helpful Links



Photographs  
by Erika  
Tigzav at  
Hood River  
Lavender  
Farm

[American College of Healthcare Sciences www.achs.edu](http://www.achs.edu)  
Follow us on Twitter <http://twitter.com/ACHSedu>

[Apothecary Shoppe www.apothecary-shoppe.com](http://www.apothecary-shoppe.com)

Erika's blog:  
<http://confessionsofamastergardener.blogspot.com/>

[Oregon Master Gardener Program http://  
extension.oregonstate.edu/mg/](http://extension.oregonstate.edu/mg/)

Find the last frost date in your area and estimated times to  
plant based on your zip code from the Farmer's Almanac

[http://www.almanac.com/garden/plantingtable  
/index.php](http://www.almanac.com/garden/plantingtable/index.php)

Master Gardener Hotline for any questions: 503 725 2300

Metro Events (including Gardens of Natural Delights):

[http://www.oregonmetro.gov/index.cfm/go/by.web  
/id=576](http://www.oregonmetro.gov/index.cfm/go/by.web/id=576)

Tour De Coops:

[http://growing-gardens.org/portland-gardening-resources  
/chickens.php](http://growing-gardens.org/portland-gardening-resources/chickens.php)

---

[www.SherwoodLavender.com](http://www.SherwoodLavender.com) [www.achs.edu](http://www.achs.edu)

