#### College of Agricultural, Consumer and Environmental Sciences

# Permaculture in the Home Landscape

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BE BOLD. Shape the Future. New Mexico State University aces.nmsu.edu





1974 Bill Mollison and David Holmgren developed a framework for a Sustainable Agriculture System they called Permaculture



"Permaculture is an approach to land management and a philosophy that adopts arrangements observed in flourishing natural ecosystems."

Wikipedia



### Permaculture

- Mind set
- Lifestyle
- Holistic driven behaviors
- Socially responsible life choices
- Evolving

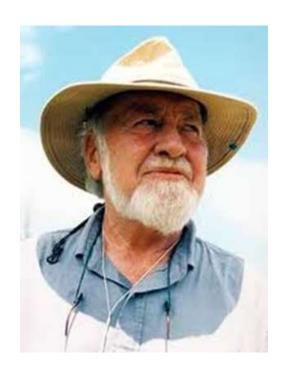


# Gardening from a permaculture view

"...the greatest change we can make is from consumption to production, even if on a small scale. If only 10% of us do this, there is enough for everyone."

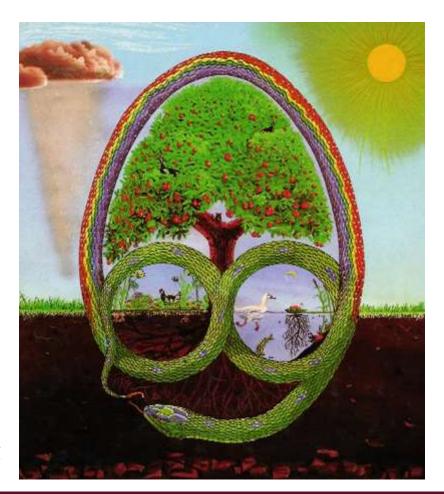
Bill Mollison

Father of the permaculture movement



### PERMACULTURE ETHICS

- Earth Care
- People Care
- Share Surplus



Networkearth.org

### EARTH CARE

Hippocratic Oath for the planet:

"...I will abstain from all intentional wrong-doing and harm"

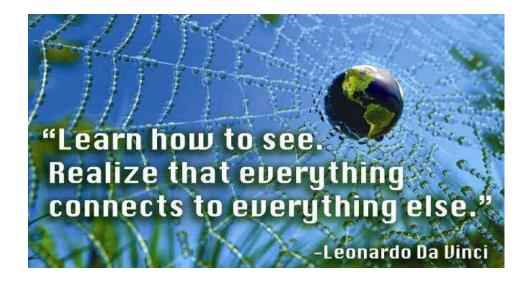
- Work with nature
- Build and protect resources
- Simplicity & diversity
- Do more with less



### PEOPLE CARE

- Everything and everyone is connected
- Meet basic needs:

   Food, water, shelter,
   education, meaningful livelihood, connection
- Help people become selfreliant and promote community responsibility



# Share Surplus

- Contribution of surplus:
  - Time
  - Products
  - Money
  - Energy

To achieve the aims of earth and people care



Leslie Davis Seed2Need Garden

## The E - experiment

Imagine you have a marker.

Imagine drawing a capitol E on your forehead.

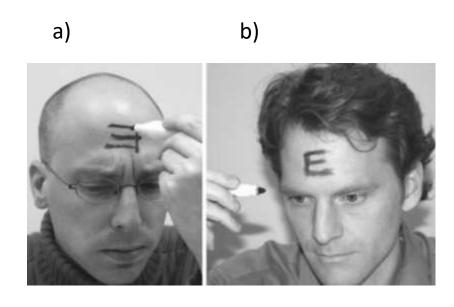
Take poll #1

# Perspective Taking

As an outside observer the

a) E opens to the left: oriented towards your own perspective in complex social situations

b) E opens to the right: take into consideration others perspectives when making decisions.



## Basic Permaculture Principles

- Observe the landscape
- Mimic natural systems
  - Pattern to design
  - Plant groupings (guilds), Edge effect, stacking, and succession
  - Pattern to design
- Work with nature
- See "problems" as solutions
- Everything in the landscape has multiple purposes and supports other elements (Backup)



## Awareness is the first step to change

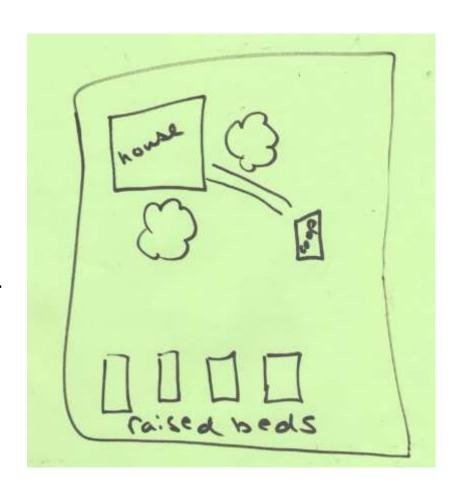


Seed2Need Leslie Davis

## Activity:

- Draw a simple diagram representing your living space and homescape as it is now
- On the same sheet of paper draw a stick figure representing you

Take Poll #2



# Where do I stand in the system/landscape/foodscape?

"Everything we do to other life forms we do to ourselves."

Bill Mollison

Do you see yourself as nature or apart from nature?



# Perspective shift

 "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."

Aldo Leopold A Sand County Almanac



# Take time to observe and be in your homescape/foodscape/landscape

- Work with nature not against it.
  - What was the land and natural environment like in the past?
  - Read natural history books
  - Native vegetation and wildlife
  - Traditional foods



# Observe your surroundings

#### Site Assessment

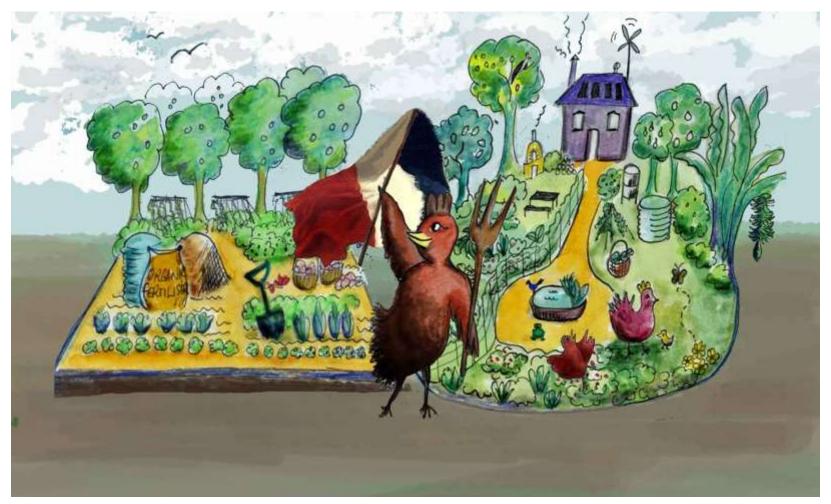
#### Through the seasons:

- Where do you like to hang out, walk, play
- Water
- Wind
- Sun
- Shade
- Warm and cool areas
- Wildlife
- Plant communities



Milkwoodpermaculture.com

#### Organic gardening vs permaculture- Different by Design



Permaculturevisions.com

# Design is making connections between things

- Everything is viewed in relation to other things, not in isolation
- Look for and build relationships so they work together efficiently



Rod Geston mudhubllc.com

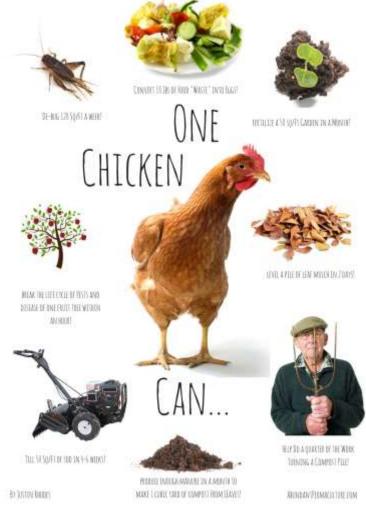
### Reflect natural environment



- Diversity & density
- Patterns to design
- Plants communities (guilds) adapted to local soils and climate

Everything provides multiple benefits

Make a resource map to see how it benefits and supports other things in the homescape



## And supports other elements

Solar Panel frame also plant stand

Rain Barrel alternate water source



# Plant groupings (guilds)

- Similar water and sun requirements
- Benefit each other
- Not much information on groupings for the desert Southwest

#### COMPANION PLANTING THE OLD FASHIONED WAY WITH A 3 SISTERS GARDEN

corn, pole beans & squash

#### THE CORN SUPPORTS THE BEANS, THE BEANS ADD NITROGEN AND THE SQUASH SHADES OUT THE WEEDS

- Plant the corn after danger of frost has passed.
- Plant the pole beans when the corn is 5 inches high.
- 3) Plant squash seeds one week later.

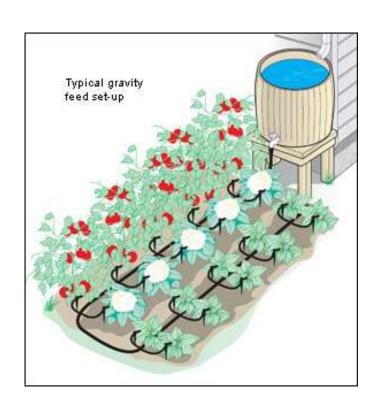




www.gmofreeusa.org www.facebook.com/gmofreeusa www.facebook.com/gmofreecanadagroup

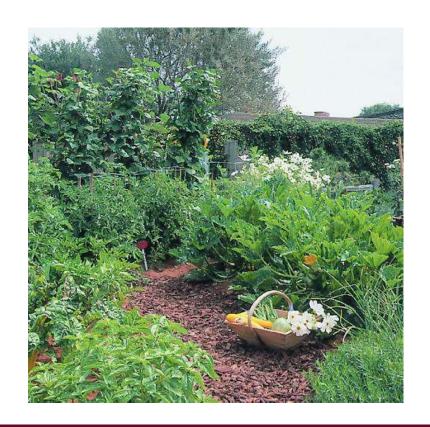


# Work with Nature not against it; cooperation not competition



### Work is Pollution

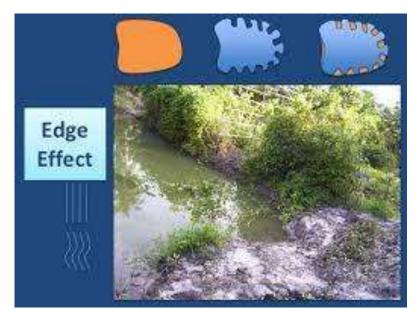
"Tidiness is maintained disorder and a waste of energy." Ben Haggard



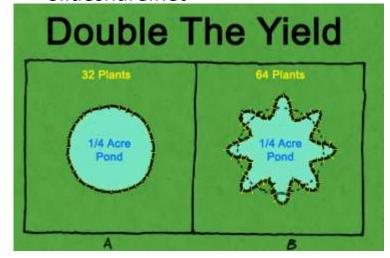
# Edge Effect

Optimize the edge for the greatest diversity and fertility.

You don't see many squares and rectangles in nature.



Slideshare.net



Schoolofpermaculture.com

### Relative Location

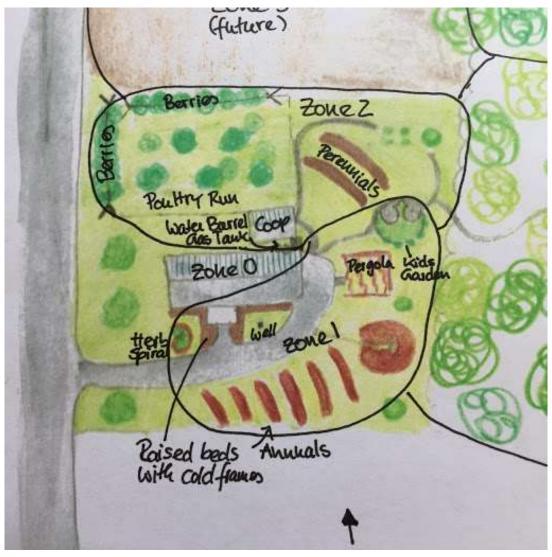
#### Going with the flow of

- Water
- Land
- Personal habits & energy

Start small and get it right!



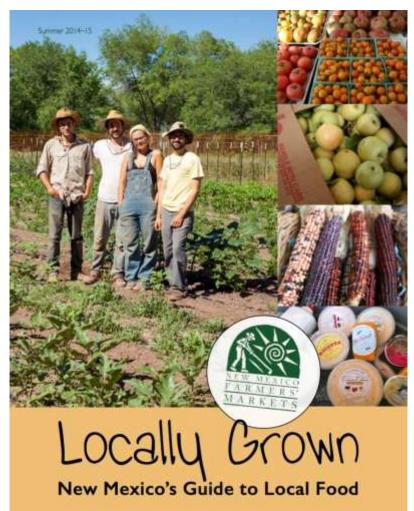
### Get in The Zone



Catskills Permaculture

# Building Soil Health

- Healthy Soils
- Healthy Plants
- Healthy People
  - -Rodale Institute



# Get your soil tested

- Know where you are now before adding to it
- See the soil improve with each year
- Optimum pH for vegetables is 6.0-7.2
- pH exceeds 7.5 (here 8+)

iron, manganese, calcium, and phosphorus are less available to the plant.





Compost pile at Seed2Need

# Water - Our most limiting resource

- Where can you find it on your property?
- Where does it flow when it rains?



Texas A&M University

# Slow it down and keep it on site







# Cover it up - mulch

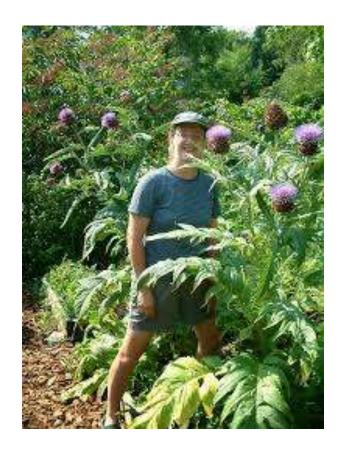
- Reduces water loss
- Moderates soil temps
- Protects plants
- Reduces weeds
- Provides slow nutrient release
- Keeps veggies off the soil surface & clean



Kellogg garden products

### Plant Mulches

- Large leaved plants that create shade
- Cut and drop
- Cut and compost
  - Squash
  - Comfrey
  - Rhubarb
  - Cardoon...



Marylandgrows.umd.edu

## Cover it up – perennial mulches







Sesbania

Sainfoin

New Zealand white clover

# Swales – slow flow, direct, and hold water





## Soil sponges

- Dig a hole
- Fill with organic matter
- Absorbs and holds soil moisture
- Good for trees



## Finally lets talk about growing food



## Diet Biodiversity



75% World's Food

Comes from

**12 Plant &** 

5 Animal species

Resiliency?

# Small Scale Intensive Gardens Diverse Planting is Key

- Prevents build up of pest, weed, and disease populations
- Confuse insect pests
- Adds variety to the garden and your plate
- Include insectary plants









## Intensive Garden Spacing

- Square-foot gardening
- Bio-intensive: closer spacing in a pattern
- Weed suppression











# Adding edibles to your landscape to make a foodscape



https://www.pinterest.com/agirlagarden/land scape-design-edible-landscaping-ideas/



Rosalind Creasy Edible Landscapes

## Add perennials

- Trees nitrogen fixers, fruit, & nut
- Shrubs
- Woody vines
- Vegetables
  - Asparagus
  - Garlic
  - Sun chokes/artichokes







## Fill vertical spaces with edibles

- Space saving
- Time saving
- Back saving









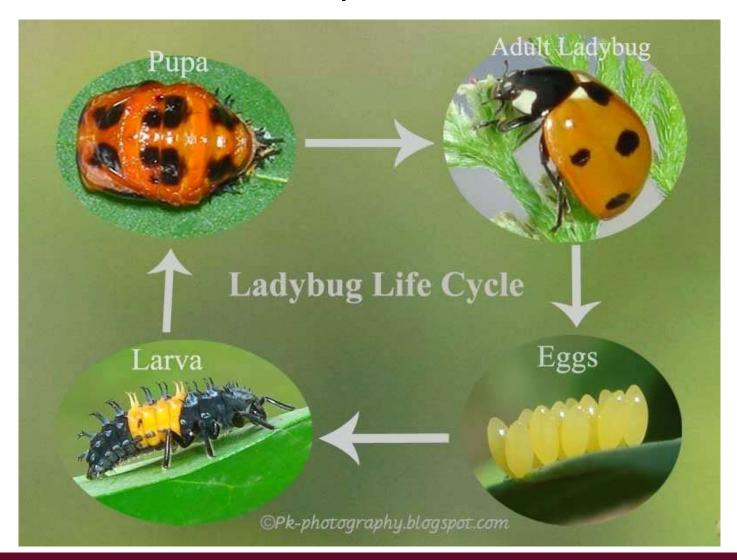


### Create habitat for beneficial insects





### Get to know their life cycle



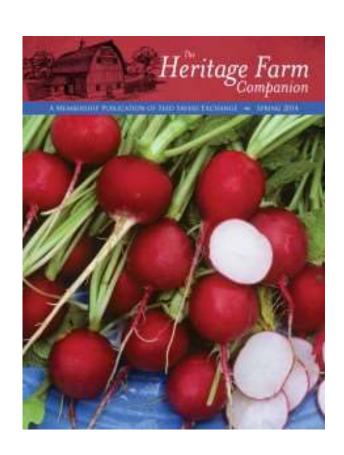
## **SEEDS**



Glass Gem Corn

## Save your own seeds

- Every time you buy a packet of seeds you start at ground zero
- Super adaptors to your growing conditions with each year of growing and saving
- Share to create local seed systems



### Permaculture Resources

#### Free online classes:

https://permacultureapprentice.com/crisis-gardening/

Five Ways To Save our Soil

https://youtu.be/nSp7SuuP1R0

https://growingsmallfarms.ces.ncsu.edu/growingsmallfarms-permaculturelinks/

https://mediasite.online.ncsu.edu/online/Catalog/Full/f5a893e74b7c4b7980fd52dcd1ced71521

https://tobyhemenway.com/resources/

https://organiclifeguru.com/

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#### **Books:**

Earth user's guide to Permaculture by Rosemary Morrow, Permanent Publications Gaia's Garden: A guide to Home-Scale Permaculture by Toby Hemenway, Chelsea Green Publishing

The Permaculture Market Garden: A visual guide to a Profitable Whole-systems Farm Business by Zach Loeks, new society publishers. (Good examples of mapping your property and designing for diversity)

## Thank you



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