Sustainable Gardening

Evans Library After Hours
David Lindemann - Sweet Leaf Aquaponics, LLC
Who Am I?

Thanks for Attending!

Sweet Leaf Aquaponics

Owner:
David Lindemann
How I learned about Gardening

Digging!

And More Digging!
Quick Overview of Topics

- What is Sustainability?
- Plant Needs
- Gardening in the Soil
  - Dirt Engineering
  - Wicking Beds
- Gardening without Soil
  - Water Engineering
  - Aquaponics
- Events for Gardeners
What is Sustainable Gardening?

✧ Doesn’t Die!
What is Sustainable Gardening?

- Specific Ecological Philosophy
According to the National Sustainable Agriculture Information Service, Sustainable Agriculture:

- Produces Abundant Food
- Does not deplete the earth’s Resources
- Does not pollute the environment
- Follow the principles of nature
- Develop systems that are, like nature, self-sustaining

https://attra.ncat.org/fundamental.html
**What is Sustainable Gardening?**

**MY PHILOSOPHY:**

1. Function: It has to work! And it has to work good!

2. Efficiency: Conserves and Reuses Limited Resources (Read: Inexpensive)

The Combination of these two principles is my philosophy of Sustainability and my view on how our natural ecosystems operate.
What do Plants Need?
Air, Light, Water, & Nutrients
Systems Approach 
Think Like an Engineer
Everyone Can Grow Successfully
Wicking Beds

Dirt Engineering
Wicking Gardens

- Also know as self-watering gardens
- Plants “wick” water from a reservoir below the soil
- Allows for excellent water conservation
- The addition of compost and worms helps to keep the soil rich and fertile
BUILD A WICKING WORM BED

Or Hire Sweet Leaf Aquaponics to do the heavy lifting and just enjoy the bounty of your garden
OVERVIEW OF STEPS

- Build a raised garden bed frame
- Add a liner and overflow valve
- Install piping and fill valve
- Fill the garden bed with compost and soil
- Add worm composter and worms
- Plant and harvest your favorite vegetables
BUILD A RAISED GARDEN BED FRAME
Make sure the bed is level
ADD LINER
ADD OVERFLOW VALVE
INSTALL PIPING AND FILL VALVE
FILL THE BED WITH COMPOST AND SOIL

Shredded Newspaper and cardboard are a good first layer of compost and make excellent bedding for worms
Another Wicking Bed
ADD A
WORM
COMPOSTER
AND
WORMS
PLANT VEGGIES

Photo taken October 26, 2011
Soilless Gardening

Water Engineering
Lots of nutrients can be absorbed by plants through water as long as the pH is correct for the particular nutrient.
Aquaponics combines the advantages of aquaculture and hydroponics.

The combination of the two farming methods forms a system that mimics a natural ecosystem. Raising fish and growing plants in a re-circulating system without the use of soil conserves resources and avoids synthetic inputs. The plants in the aquaponics system obtain nutrients from the natural bacterial cycles that convert fish wastes to nutrients while simultaneously, the plants are filtering and cleaning the water for the fish to live in.
The Beauty of Aquaponics

- Natural food growing method without the use of any pesticides or synthetic fertilizers
- Environmentally-friendly use of water resources while promoting natural biological processes
- Eliminates soil-borne insects, diseases, harmful E. coli bacteria and prevents weeds
- Emulates the relationships found in natural ecosystems
Small and Simple

An Aquaponics System in a Fish Tank
Aquaponics Construction

Water Engineering...aka Plumbing
My Aquaponics Garden

Raft Style Vegetable Growing Troughs
Aquaponics Water

Use the overflow for your plants
Other Gardens

*Melbourne Village Wicking Bed*
Other Gardens

Melbourne Village Double Wicking Bed
Other Gardens

Aquaponics in Palm Bay
Other Gardens

Melbourne Beach Triple Wicking Bed
Other Gardens

Lake Washington Aquaponics
Other Gardens

Eau Gallie Wicking Bed
Other Gardens

Port St. John Aquaponics
Other Gardens

Smaller projects
More Landscape Projects
More Landscape Projects
More Landscape Projects
More Landscape Projects
More Landscape Projects
Start Your OWN Garden
Grow Real Food
Botanical Fest
10th Anniversary
COMING
March 7, 2015
Florida Tech Campus
Plant and Garden Sale
UPCOMING EVENTS

...plants, tours, classes
PLANT SALE

SUNDAY, MARCH 7TH, 2015

- Mangos!
- Dragon Fruit
- Black Bamboo
- Papaya
- Mulberry Trees
- Lemon Grass
- Bromeliads
- Lots of Palms
- Jatropha
- Decorative Tropicals
- Much More!!
DIY Workshop
All Day Saturday
Hands On, Aquaponics Manual
April 11th Available
DAYLIGHT SAVINGS TIME

DON'T FORGET TO SPRING FORWARD

BRACE YOURSELVES

DAYLIGHT SAVINGS TIME IS COMING
THANK YOU

Happy Spring Forward Time Change!