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For more information on Small Farms, visit our website at: http://smallfarms.ifas.ufl.edu/ or contact your local County Extension Agent.

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"Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests by the most lasting bands."

Thomas Jefferson
Let’s do the math: How long can that last?

7 to 10 calories of energy are used for every 1 calorie of food produced, processed and transported.
We use one billion pounds of toxic pesticides a year in addition to GMOs. And they’re not working very well – superpests and superweeds are becoming more and more of an issue. (EPA)
We lose 24 billion tons of topsoil a year through water and wind erosion with conventional agriculture. (The National Trust, UK)
Roman wheat field
What is permaculture?
“Permaculture is an ecological design methodology whereby we create relationships between minerals, plants, animals and humans, so that their function and yield are optimized.”
“The aim is to create systems that are ecologically sound and economically viable, which provide for their own needs, do not exploit or pollute and are therefore sustainable in the long term.”
~Bill Mollison

Permanent comes from Latin: to remain throughout. Culture, from Middle English, cultivation, tillage
“The laws of nature demand that we look at the whole system. To control any individual organism, we need to understand how it relates to the ecosystem in which it operates.”

John Teasdale, USDA Agricultural Research Service
Permaculture design increases yield while reducing energy needs and waste.
USE SMALL AND SLOW SOLUTIONS

USE THE EDGE
Chaya
Moringa
Katuk
Partnerships in soils:
Capture energies in a way that increases yield
A course graduate used one technique that we teach, making compost tea, to boost her husband’s arborist business by thousands of dollars.
Sunn hemp:
- Fixes 100-200 pounds of nitrogen per acre
- Suppresses root knot nematodes
- Suppresses weeds
- Loves Florida summers, drought tolerant
Pigeon pea
Ice cream bean
Tithonia diversifolia – In some cases, has provided more available NPK to crops, with higher yields, than chemical fertilizers.
EAT THE WEEDS
- Purslane contains more omega-3 fatty acids than any other leafy vegetable, along with vitamins, minerals and potent antioxidants.

Price: $37, For 60 caps
Water hyacinth uses

People food
Animal fodder
Biofuel
Wood fuel substitute
Paper
Compost/biomass
Water purification
Floating veggie garden
Mats
Baskets
Mushroom substrate
Algae/sewage control
High yield 2 year old clonal *Eucalyptus* crop & annual wheat intercrop polyculture managed as an agro-forestry system. (Jalandhar, Punjab, India)
Polycultures in the Brazilian Drylands: A new version of an old tradition
Marsha Hanzi  http://ag.arizona.edu/oals/ALN/aln48/hanzi.html

- 3-8 times higher yields
- No irrigation
- No chemicals
- Improved soils
- Increased income
- More stable income
- Food for farmer
*Opuntia* cactus is planted before the rains

Castor beans are planted next

Fruits, hardwoods and legumes (Jack beans, pigeon pea) planted together

Short term cash crops planted between beans (sesame, radish), with legume trees (*Leucaena*, *Gliricidia*) planted after harvest

Rows of corn and cowpeas fill space
Perennial polycrop advantages

- More economic security
- Long term income
- Higher yield potential
- Integrated pest management
- Less irrigation
- Less fertilizer
- Improved soils
- Healthier ecosystems
Sustainable Urban Agriculture