

Organic Farming

You can help us save the world!

by Katherine Valverde

Organic farming has always been known as an environmental friendly alternative to conventional agriculture. It could be one big solution to reduce soil erosion, water pollution and keep our Earth healthy.

Organic Farming is not new. It was the way our ancestors used to work the land. It is been around for centuries. It was in the early twentieth century that the organic movement began as a reaction to industrialization.

This type of farming produces high quality food and at the same time it helps tremendously the environment and the wild life by minimizing the pollution. This is a form of agriculture that highly relies on the ecosystem management; it improves the ecosystem health, the biodiversity, and the soil fertility.

There several methods of organic farming, but they all hare common goal and practices. The farming methods that each farmer develop are determined by factors such as agricultural regulations, climate and market conditions.



Organic Farming can Reduce Greenhouse Gases.

It is sad that the whole world is realizing that we are facing Global Warming, except the Bush administration. Global warming destroys wildlife habitats, heats up the oceans creating irreversible damage to coral reefs, promotes droughts and intensifies hurricanes etc. The list is immeasurable.

We can definitely change the future of our planet. Just like the organic farmers around the world. Studies have shown that organic farming captures atmospheric carbon dioxide and incorporating it into the soil. On the other hand conventional farming exacerbates the green house effect by producing a release of carbon in the atmosphere. This study was done by the Rodale Institute in conjunction with the Department of Environmental Protection.

According to this study, the key lies in the handling of organic matter. Carbon is soil primarily organic matter, so any increase in the soil organic matter levels it would create a direct correlation with carbon sequestration. By the use of composted animal manures and cover crops, organic farming builds up organic matter while conventional farming depletes it.

A team of researchers reported in the journal *Nature* that, unless the world is getting half its energy from non carbon sources by 2018, we will see an inevitable doubling or possible tripling of atmospheric carbon levels later this century

Source: The Environmental Magazine.

Organic Farming vs. CO2

Fast Facts

If only 10,000 medium sized farms in the U.S. converted to organic production, they would store so much carbon in the soil that it would be equivalent to taking 1,174,400 cars off the road, or reducing car miles driven by 14.62 billion miles.

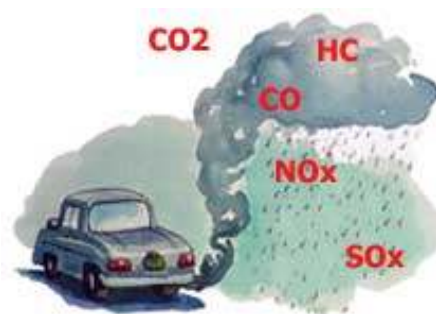
Converting the U.S.'s 160 million corn and soybean acres to organic production would sequester enough carbon to satisfy 73 percent of the Kyoto targets for CO2 reduction in the U.S.

U.S. agriculture as currently practiced emits a total of 1.5 trillion pounds of CO2 annually into the atmosphere. Converting all U.S. cropland to organic would not only wipe out agriculture's massive emission problem. By eliminating energy-costly chemical fertilizers, it would actually give us a net increase in soil carbon of 734 billion pounds.

Source: www.newfarm.org

How much Carbon Dioxide can Organic Farming take of our environment each year?

Organic farms sequester as much as 3,670 pounds of carbon per acre foot each year. According to the US Environmental Protection Agency, a typical passenger car emits 10,000 pounds of carbon dioxide a year (average of 12,500 miles per year).



Number of 320 acre farms

Number of Cars off Road

1 Farm	117 Cars
1,000 Farms	117,440 Cars
10,000 Farms	1,174,400 Cars
100,000 Farms	11,744,000 Cars

If all 440+ million acres of US cropland were converted to organic:

- 158,177,000 cars would be taken off the road (over half of the national total)
- 1.98 trillion car miles not driven. All the money gas that we can save!!!!!!

Source: www.newfarm.org



What is Organic Farming?

The best example of organic farming is nature. Organic farming is the natural way of farming. For some people it is a way of living. It is a moral duty that you have with the planet, with your neighbor, with your community, with your future generations.

An organic farmer respects the ecosystem. They view their own farm as an ecosystem and they everything in their power to not change it. The farmer knows that a small change in the ecosystem can highly disturb the relationship within the farm.

The use of synthetic fertilizer is prohibited in organic farming. Without chemicals in the soil you are giving the opportunity to the natural environment to succeed. For example, if one leave from a plant that was sprayed with pesticide falls to the ground there is a high probability that if a bug eats it, the bug will die because of the chemical that the leave may have. In organic farming that would never happen. It will be the complete opposites because there are no chemicals in the plant, the bug will survive the leave will naturally decompose giving nutrients of the soil and the biodiversity of the environment will not be affected.

Organic farmers rely on crop rotations. They do this to maintain a natural habitat. This is also a great to maintain soil fertility. Changing crops avoid the deficiency of certain nutrients in the soil. If in one season certain crop is highly dependable on nitrogen, the next season the new will replenish the nitrogen by absorbing other nutrients or minerals.

The way farmers compensate the lack of synthetic fertilizers is by using organic fertilizer; like composting. Anything that rots can be composted.

Composting is the decomposition of plants or vegetables remains. Food wastes are also good for composting. The end result is an earthy smelling soil like material that is a terrific fertilizer for plants. Also composting reduces the amount of waste that ends up in landfills.

The way that they control the weed is mostly by hand. They don't use any chemicals so the weed is pulled out one by one. That is why organic food in some cases is more expensive than regular food; the labor cost is much higher.

Organic Certification



“USDA’s National Organic Program regulates the standards for any farm, wild crop harvesting, or handling operation that wants to sell an agricultural product as organically produced.”

It is not easy for an organic farmer. They have to follow certain criteria that are determined by the USDA’s National Organic Standards. They have to be very careful with all the things that they use; from seeds to detergents.

They have to use organic seeds if you can find organic them you have to show them that you made the effort to find them. Off course the use of genetically modified seeds are prohibited.

Organic farms get every certain time visits from USDA regulators to check their soil. They test the soil to see if there is any type of chemicals in it. If they find anything not regulated by the USDA they are fined and they can loose their certification.

Knowing an Organic Farmer Point of View.

Interview of Stan Glaser Owner of “Glaser Organic Farm” Homestead, Florida.

Glaser organic farm is located in Homestead, Florida. They were established in 1980 and they specialize in growing tropical fruits, vegetables and herbs. This is the interview was done to Stan Glaser, the farm owner, with the purpose of giving you more information about organic farming and how you can apply it in your own home.

What is your definition of organic farming?

That is a very broad definition. Well in simplest way at best you try to duplicate nature. That is what an organic farmer does at best. At worst he just trade in certain inputs just like a chemical farming under the changes that are allowed under the organic code. There is a huge range of organic farming, maybe more ways than in traditional way. In organic farming you can find people that farm like us. We try to duplicate nature and we try not to put anything that could be negative for the environment. A lot of farmers change from traditional farming to organic and the first question is what I can spray, or what I can put down. In order words they what to do what they were doing in traditional farming, but under the organic codes. A real organic farming farmer has to duplicate nature and have skills. Sadly farmer's skills have been lost thru chemical farming because they all do the same things: fertilizer, herbicides and pesticides. A chemical farmer fights with nature; an organic farmer work symbiotically with nature that is the real key.

Why did you decided to become an organic farmer?

I never decided to be an organic farmer. I am just a human being to try to survive in this world. I am an architect, and farming is something that came to me when I realized that I needed to change my lifestyle. When I finished school I jointed the Peace Corp and I traveled to many countries and I learn different cultures. When I came back to the states I was so culture disoriented that I had the need to create a new life style that makes sense for me. This brought into food and that into where is the food. I realized that raw food was the way I wanted to go and that drifted me into organic farming.

Is there any agricultural product harder to grow organic than others?

Well, it comes to the saying that weed is a vegetable in the wrong place. Down here many people come to farm vegetable, which are generally farmed in the northern vegetables. In the tropics no one tried to grown vegetables part of the country, it is harder. Sunlight is very important. We grow vegetables down here during the winter. We have short days and long nights. In

the north is the opposite, long days shorts night. When we grow those seeds here we have problems because we don't give the seed the time to completely evolve.

Are there any types of herbicides, pesticides or fungicides that can be used in organic farming?

Yes there are USDA organic certified chemical that you can use. In organic farming, herbicides, pesticides, fungicides that are allowed to be used, tend to be a little better than in chemical farmers because they are made of more natural ingredients and tend to break easily in the environment; they are less enduring. But they also have chemicals, just in less percentage than regular pesticides. The organic farmers use fertilizers that are natural occurrence and they are not force in the plant. Fertilizers are the key of all things, if you put imbalance fertilizer the plant get unbalance and it gets attack by nature.

Do you use any kind of pesticides?

We try not to put anything that can be negative to the environment. The fertilizers that we use are from composting. The herbicides that we use are our workers hands. We get rid of weeds by pulling them out. The fungicide that we use is nature. We just try duplicate nature. We have such rich biodiversity here that the environment takes care of the problem.

Are organic products healthier for us?

Yes, the food is much healthier. It is healthier in nature

because it is not attack by bugs. Organic farmers are reducing or voiding totally the use of chemicals to grow crops. It is a natural way to grow things and its' benefits are going to be proved in the future. We know about the green revolution and how that's affected the soil and the vegetables that we get from traditional farming are all blow up with chemicals. Just try this get an organic fruit and a fruit grown in traditional farming. You will notice the difference in taste, and those are the minerals that may lack in traditional framing crops.

Why organic food is more expensive?

It is just a matter of supply and demand.

It is know that the government highly subsidies traditional farming? Does an organic farmer get any subsidies from the government? If not what can be done to change things?

A small organic farmer does not get any subsidies from the government. Only big farms, especially traditional farmers, get subsidies. To help a small organic farm is the most difficult thing to do. It is a matter of how big farmers get all the money because they have lobbyist in the congress. We need more small organic farmers, and off course buy locally grown vegetables.

It is possible to have an organic garden at home?

Sure you can do it. People do have problems specially composting. People don't have the land to do it. One of the most rewarding things is to eat what you have grown. If you

don't have the space you can start with a little pot by the window. You are supposed to use organic seeds.

How important is soil fertility in organic farming?

Soil is life. If you have poor quality soil, it would reflect it in your crops. It is by far the most important parameter in farming; organic and traditional.

Why you can't use gm foods. Do they highly rely on chemicals to grow it?

No you can grow them with out chemicals, but it goes against our principles of imitating nature because you are creating a monster. You know that GM tomatoes may have fish cells to make it frost resistant. We don't what are we dealing with. Why use GM seeds when we can use natural seeds? It all falls back in the fact that traditional farmers don't want to do things the right way. They want to have perfect tomatoes in half the time with a higher yield.

Create your own Organic Garden at Home.

It all depends in how much space you have available. If you live in a condo you can start by planting small crop on a window box. If you have more space like a backyard, you can plant your crops there.

If you are using your backyard and you have enough space you can make soil beds. Soil beds are like flat mountains of soil that can be from 2ft to 3ft. wide and like 1 ft tall. If space is limited you can always use pots. The important thing is that you create an organic atmosphere, not only in your fruits and vegetables, but all over your garden. This will create a rich biodiversity that can ultimately attract butterflies or even some birds.



DOES & DON'T

- *Try to use organic certified seeds
- *No genetically modified seeds
- *Control weeds with out using herbicides
- *Make compost
- *Make soil care a high priority
- *Try to plant native plants, and educate yourself about invasive plants so you can avoid them

Reasons to Have your Own Organic Garden



You will have time to interact with nature get fresh air.



Your kids will really now where there vegetables are coming from



There is no better feeling to eat something that you have grown.



You will be certain that you are eating pesticides free food.



No genetically modified food.

Composting



Composting is the decomposition of plants or vegetables remains. You can keep adding items that can decompose, at your convenience. Eventually it will rot. You will need a compost box which you can either buy or built.

Some people say that is recommended to move your compost every other day to it can be oxygenated and the decomposition is faster. Other people believe that the best way to do it is just to let it be.

It can take from six weeks to a year for compost to be ready. The reality is that the most effort you put in it, the faster you will see the results. You will notice that the compost is ready when your container has turned brown and it will emit an earthy smell. Then you know it is complete. Experts recommend to leave the compost for a month or two to completely mature before it is used. It does not matter if the end result is not completely fine, even if it is sticky or lumpy you can use the compost.

You can compost almost everything that can decompose. Try to avoid the following items: meat, fish, newspapers and cooked food. Completely avoid: coal, cat litter, dog feces, disposable nappies and glossy magazines.

At the end of this booklet you will find a printout of instructions of how to make compost. It was downloaded from www.organicgarding.com

Here are some vegetables and fruits that you can grow at home. You can find this organic seeds almost everywhere. The following are the most commonly used.



Oregano (*Origanum Vulgare*)

Scientific Classification:

Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Lamiales

Family: Lamiaceae

Genus: Origanum

Species: *O. vulgare*

It is a species native to Europe, the Mediterranean region and parts of Asia. It is a perennial herb (it lives for more than two years). Oregano is an herb that it is important in the culinary world. This plant produces leaves that are an essential ingredient in many dishes. The oregano leaves are often more flavorful dried than fresh. It is also used in salads, stews, stuffing, eggs and cheese dishes, and it is delicious with fish.

Planting Instructions:

Start seed indoors in a sunny location 6 weeks before transplanting outside. You can keep them inside as long as they have plenty sunlight.

You can also sow in soil in full sun after danger of frost is past. You can do it in spring, 2 to 4 weeks after average last frost. Or you can plant as late as 2 months before first fall frost. Transplant plants to 12 inches apart when they are 2 inches tall. It performs best in rows 10-12 inches apart.

Days to germination	Planting Depth	Plant Spacing	Plant Height	Way to Preserve
8 – 14	1/8 inches	12 inches	14 – 22 inches	Drying

Suggestions:

You can encourage the foliage by removing flowers as they appear. For drying, cut just before flowers open. Oregano will thrive as a potted plant.

Oregano is aromatic and flavorful. It has a wonderful synergy with tomatoes, cheese/eggs combinations (omelets, quiches), and marinates vegetable. It is a great combination with thyme, garlic, parsley or olive oil.

Carrot



Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Apiales

Family: Apiaceae

Genus: Daucus

Species: *D. carota*

Carrot, raw	
Nutritional value per 100 g	
Energy 40 kcal 170 kJ	
<u>Carbohydrates</u>	9 g
- Sugars	5 g
- <u>Dietary fiber</u>	3 g
<u>Fat</u>	0.2 g
<u>Protein</u>	1 g
<u>Thiamin (Vit. B1)</u>	0.04 mg 3%
<u>Riboflavin (Vit. B2)</u>	0.05 mg 3%
<u>Niacin (Vit. B3)</u>	1.2 mg 8%
<u>Vitamin B6</u>	0.1 mg 8%
<u>Vitamin C</u>	7 mg 12%
<u>Calcium</u>	33 mg 3%
<u>Iron</u>	0.66 mg 5%
<u>Magnesium</u>	18 mg 5%
<u>Phosphorus</u>	35 mg 5%
<u>Potassium</u>	240 mg 5%
<u>Sodium</u>	2.4 mg 0%

Source: www.wikipedia.org

The carrot is a root vegetable. It can be eaten raw, cooked, in salads, in soups or stews. There are different types of carrots, different sizes and colors. If you have a continuance sow, you can have availability of carrots for most of the year. If you are planning to plant short varieties of carrots they can be sow in a window box of a pot, but they have to have at least 15 cm deep and off course you can also sow them outdoors.

Planting Instructions:

Carrots tolerate light shade, but they don't do very well. Try to find a site where the crop can get full sun. You can use a soil bed for this crop or in case of planting short varieties you can use a window box or pots. Add enough organic matter (compost). This will help the soil to increase the moisture retention. Here in Florida we have a warm climate most of the time so carrots can be planted during Fall, Winter or Spring. To speed germination you can soak the carrots seeds in water about 6 hours before planting them. This process will make the seeds to mature faster. In full sun and well drained soil sow 3 seeds per inch in the soil bed. Then you can cover them with a thin layer of a mixture of soil and fine compost. When plants are about 2 inches tall, move them 2 inches apart. Do this very carefully by gently pulling the roots so you do not disturb the remaining plants. You can water the plants every week (about one inch of water per young plant) and reduce the quantity when the plants get more mature. You can harvest the carrots when they've turned deep orange.

Days to Germination	Days to Harvest	Planting Depth	Spacing Bed/Plant	Ways to Preserve
8-12	75	¼ - ½ inches	15 in/2 in.	Storage and Canning

Suggestions:

Carrots need lots of potassium. You can use wood ashes to provide potassium to your crop. Just sprinkle over the planting area before sowing the seeds. Be careful with the amount of water. The carrots can crack if they get too much water. They also need to be weeded. Keep the roots covered with soil, because if they get sun exposed to the sun they can turn green, get a bitter taste and they can crack.



Cucumber

Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Cucurbitales

Family: Cucurbitaceae

Genus: Cucumis

Species: *C. sativus*

Cucumber (with peel)	
Nutritional value per 100 g	
Energy 20 kcal 70 kJ	
<u>Carbohydrates</u>	3.6 g
- Sugars	1.7 g
- <u>Dietary fiber</u>	0.5 g
<u>Fat</u>	0.1 g
<u>Protein</u>	0.7 g
<u>Water</u>	95 g
<u>Pantothenic acid</u> (B5)	0.26 mg 5%
<u>Vitamin C</u>	3 mg 5%
Percentages are relative to US RDI values for adults.	

It is a vegetable believe to be native to India. That is why they do so well in warm weather. Cucumbers need warm from germination all the way to fruiting, every step of the cycle. It can be used in salads, raw or cooked but they have to be eaten fresh. There are certain varieties that are intended for pickling.

Planting Instructions:

This plant craves for warmth so find a place with all day sun, and some shade in the afternoon. Prepare the soil by mixing it with compost and well rotted manure (if you don't have the manure just use more compost). Also remember that soil has to be well drained. In full sun sow cucumber seeds into the ground. Do this when the soil and air temperature has an average of at least 65 degrees Fahrenheit (about two weeks after the last frost). It usually germinates between 3 to 10 days. This depends on soil temperature; if it is warmer the seed would sprout faster. When plants are about 2 inches tall, separate them 2 – 3 inches apart. Wait four weeks after germination to fertilize with compost. You can do this by putting the compost on the side of the beds.

The use of mulch is recommended once the plants are established. The mulch is used to control weed and keep the soil moisture. Watering the plant is important specially when stage of flowering and fruiting. Cucumbers grow quickly so be careful when you are going to pick them. A moderate size to pick cucumbers is between 4 to 5 inches for the pickling varieties and for regular cucumbers is between 7 to 9 inches. If you let them grow larger than that it is more likely that they will become bitter and with lots of seeds.

Days to germination	Days to harvest	Planting Depth	Spacing	Preserve by
8	60	½ inches	2 – 3 inches	Pickling

Spinach



Kingdom: Plantae
Division: Magnoliophyta
Class: Magnoliopsida
Order: Caryophyllales
Family: Amaranthaceae
Genus: Spinacia
Species: Soleracea

Spinach, raw	
Nutritional value per 100 g	
Energy	20 kcal 100 kJ
Carbohydrates	3.6 g
- Sugars	0.4 g
- Dietary fiber	2.2 g
Fat	0.4 g
Protein	2.9 g
Folate (Vit. B9)	194 µg 49%
Vitamin C	28 mg 47%
Vitamin E	2 mg 13%
Vitamin K	483 µg 460%
Calcium	99 mg 10%
Iron	2.7 mg 22%
Percentages are relative to US RDI values for adults.	

Source: USDA Nutrient database and

www.wikipedia.org

This plant is native to central and southwestern Asia. It is famous because it was the power source (and favorite food) of Popeye. It is an annual plant, which means that germinates, flowers, and dies in one year. The plant leaves differ in sizes. The larger leaves are usually in the base of the plant and the small leaves are higher near the flowering system.

Planting Instructions:

Choose a place where the crop can have partial shade. For the crop the soil must be very moisture retentive. You can prepare the soil before planting with a mixture of manure and compost. Let it rest for 3 – 5 days. Do this between 4 to 8 weeks before the last expected frost. As soon as the soil can be worked, sow the spinach seeds into the soil bed. Place one seed ½ inches deep every 2 inches and then cover it with soil. This is a cool weather vegetable so it is recommended here in South Florida to be planted late September so you can have enough time for the plant to grow in a cool environment.

When plants reach 3 - 4 inches tall thin the seeds 6 inches apart. If the plants seed prematurely don't throw away the cuttings, you can use them in salads. Feed the plants with compost tea until they are 6 inches tall. To make compost tea just get a bucket fill up half way with compost. Then add water so it is 5 inches higher than the compost. Let it rest for a week. After a week the water will have a tea color. That is the water that you will use to spray your plants. Do not throw away your compost, you can reuse it. Mulch the established plants to conserve moisture and keep weed control. You can start cutting the spinach leaves from the outside of the plant. If the plant is mature you can harvest the entire plant.

Days to germination	Days to harvest	Planting Depth	Spacing	Preserve by
8 – 10	45	½ inches	6 inches	Freezing & canning

Suggestions:

If your spinach has yellow or brown margins on the leaves it means that the soil is too acid. Add lime or wood ashes to correct the imbalance.

Cilantro / Coriander



Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Apiales

Family: Apiaceae

Genus: *Coriandrum*

Species: *C. sativum*

Coriander leaves, raw Nutritional value per 100 g	
Energy 20 kcal 100 kJ	
Carbohydrates	4 g
- Dietary fiber	3 g
Fat	0.5 g
Protein	2 g
Vitamin A	337 µg 37%
Vitamin C	27 mg 45%
Percentages are relative to US RDI values for adults.	

Source: www.wikipedia.org

The plant is cilantro while the seeds are coriander. It is an annual herb and some people say that it is native to the Mediterranean and other people say that it is native to south Asia. It will grow in warm weather. It grows up to 50 cm. The leaves have a distinctive flavor and are used as a garnish in salads and soups. The coriander is used in meat and seafood dishes. Also it is used as a condiment for flavor in bread, cakes and cookies.

Planting Instructions:

This herb needs full sun. Cilantro needs soil that is well drained and mixed with plenty of compost. Prepare the soil 4-5 days before you sow the seeds. You can plant this herb either in a soil bed or a window box. This herb is not a good resistant of transplanting, plant the herbs where you want it to grow. After all danger of frost has passed sow the seed directly in the soil ½ inches deep. Do it in full sun. When the plants are 2 inches tall thin them 4 inches apart. Follow with mulch to conserve moisture and keep a weed control.

When the plants are young you have to keep an eye on them because they do need water and they can dry out. After the plants are established you can reduce the water quantity. Just do not over water them. You can sow seeds every three weeks to have leaves all year long. The plant can be harvested when it reaches 40 – 45 cm.

Days to germination	Planting depth	Plant spacing	Plant Height	Preserve by
7 – 10	¼ inches	6 inches	50 cm	drying

Suggestions:

Harvest the seed in late summer by cutting seed heads when ripe. Spread seed heads on trays to dry in sun. Thresh by hand and store in jars. If you are using pots choose one that is at least 12 inches deep.