

Wise Teacher - Healthy Child

courses for teachers on dietetics and healthy nutrition

of children and adolescents

Leonardo da Vinci – Partnerships -

Project number: 2013– 1-PL1-LEO04-38496-2

Curriculum Course : Organic food. Why to avoid processed food

1) Introduction

Throughout history, food systems, and thus human diets, have been and are shaped by climate, terrain, seasons, location, culture, and technology. They can be grouped into three broad types: gatherer–hunter, peasant–agricultural, and urban–industrial. The food systems (for example, pastoralist, the semi-mobile farming of herds of large animals such as sheep and cattle) have their roots in history. All have coexisted in recent millennia with the exception of industrial food systems, which are the consequence of the industrial revolution that began in Europe in the late 18th century. These systems still exist in the world today.

The food system is continually evolving. The development of agriculture, the invention of the plow, the dawn of agricultural chemicals and the ongoing process of industrialization are among the revolutions that have transformed nations through food.

All the tools our bodies need to function optimally and efficiently (read: produce and utilize energy) can be found in foods.

The purpose of food is to nourish you. With today's food supply, what we eat can either take us in the direction of health or away from it.

We need food to live, to maintain the structure and function of our cells, and to support and fuel the systems that keep us going strong -- immune, digestive, respiratory, circulatory, and

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so on. But some foods can have little to none of the nutrients we need, so when we eat nutrient-poor foods, we ask the body to work with fewer resources. When we provide nutrient-poor food and chemicals, then we ask the body to not only do its daily work with fewer resources, but we also ask it to combat additional challenges.

This course will focus on the knowledge about food processing and discuss some of the essential questions.

Target Group: Teachers from all types of schools (primary, secondary and High School).

Duration: 4 hours

Useful links:

<http://www.helpguide.org/articles/healthy-eating/organic-foods.htm>

www.sharecare.com/health/diet-nutrition/why-avoid-processed-foods

http://viewfromtheloft.typepad.com/veggies_unlimited/processed-foods-why-and-how-to-avoid-them-a-primer.html

<http://www.jhsph.edu/research/centers-and-institutes/teaching-the-food-system>

<http://www.whfoods.com/>

<http://www.healthyeating.org/>

II) Course Overview and Objectives

The aim of the syllabus is:

- to provide teachers from all types of schools more information and knowledge about the Organic food.
- Learn, through examples, why and how foods are processed;
- Consider the impact of organic food on the health and wellbeing of peoples.

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III) Content of the course

1. Definition and a brief history.

Food processing—the set of methods and techniques that are used, by the food industry or in the home, to transform raw ingredients into food or to transform food into other forms—has been used for centuries. From prehistoric man, who discovered fire to cook his food, to other early forms of food processing that include drying, fermenting and salting, humans have found ways to improve upon their food supply, making it safer, more palatable, more available and healthful.

Processing methods have expanded to include canning, freezing, fortifying and preserving, leading to the plethora of convenient, tasty, inexpensive and nutrientrich foods on the market today.

Organic farming has been practiced however for about 10,000 years, since humans began intentionally planting crops.

The word “organic” originated in Europe, where it was used to designate a type of farming that depended on organic matter (not organic chemistry).

There is no precise beginning to organic agriculture. Some people say that all agriculture before the 20th century was organic, but in fact organic agriculture is much more than the absence of modern fertilizers and pesticides. In the first half of the 20th century several people began to question the movement towards intensification and monoculture in agriculture and to look for holistic, ecological, systems approaches that would preserve the quality of the land.

Organic food has become very popular. But navigating the maze of organic food labels, benefits, and claims can be confusing. Is organic food really healthier? Do GMOs and pesticides cause cancer and other diseases? What do all the labels mean?

2. Why are foods processed?

Historically, the most important reason to process or prepare foods has been to make them last longer before spoiling.

Early civilizations used techniques like salting meats, fermenting dairy (into cheese or yogurt, for example) and pickling vegetables.

More recently, in the 1790s, Napoleon Bonaparte offered a prize to the scientist who could best develop ways to preserve foods for the armies of France; the competition prompted the discovery of safe canning practices by Nicolas Appert.

Louis Pasteur, working with beer and wine, would later discover pasteurization, a process that uses controlled amounts of heat to extend the shelf life of milk, juice and other products.

Some argue that preservation is still the most important reason to process food because illness, even death, can result from eating spoiled food.

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When perishable products have longer shelf lives consumers can enjoy them for a greater part of the year, distributors can ship them over greater distances, and retailers can stock them on shelves for extended periods.

3. What is organic food?

Making a commitment to healthy eating is a great start towards a healthier life. Beyond eating more fruits, vegetables, whole grains, and good fats, however, there is the question of food safety, nutrition, and sustainability. How foods are grown or raised can impact both your health and the environment. This brings up the questions: What is the difference between organic foods and conventionally grown foods? What about locally grown foods?

4. What does “organic” mean?

The term “organic” refers to the way agricultural products are grown and processed. Specific requirements must be met and maintained in order for products to be labeled as "organic."

Organic crops must be grown in safe soil, have no modifications, and must remain separate from conventional products. Farmers are not allowed to use synthetic pesticides, bioengineered genes (GMOs), petroleum-based fertilizers, and sewage sludge-based fertilizers.

Organic livestock must have access to the outdoors and be given organic feed. They may not be given antibiotics, growth hormones, or any animal-by-products.

- ▶ No artificial pesticides
- ▶ No artificial fertilizers
- ▶ No preservatives
- ▶ No artificial food additives
- ▶ No artificial hormones
- ▶ No antibiotics

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5. The benefits of organic food

Organic foods provide a variety of benefits. Some studies show that organic foods have more beneficial nutrients, such as antioxidants, than their conventionally grown counterparts. In addition, people with allergies to foods, chemicals, or preservatives often find their symptoms lessen or go away when they eat only organic foods.

In addition:

- Organic produce contains fewer pesticides. Pesticides are chemicals such as fungicides, herbicides, and insecticides. These chemicals are widely used in conventional agriculture and residues remain on (and in) the food we eat.
- Organic food is often fresher. Fresh food tastes better. Organic food is usually fresher because it doesn't contain preservatives that make it last longer. Organic produce is often (but not always, so watch where it is from) produced on smaller farms near where it is sold.
- Organic farming is better for the environment. Organic farming practices reduce pollution (air, water, soil), conserve water, reduce soil erosion, increase soil fertility, and use less energy. Farming without pesticides is also better for nearby birds and small animals as well as people who live close to or work on farms.
- Organically raised animals are NOT given antibiotics, growth hormones, or fed animal byproducts. The use of antibiotics in conventional meat production helps create antibiotic-resistant strains of bacteria. This means that when someone gets sick from these strains they will be less responsive to antibiotic treatment. Not feeding animal byproducts to other animals reduces the risk of mad cow

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disease (BSE). In addition, the animals are given more space to move around and access to the outdoors, both of which help to keep the animals healthy.

- Organic food is GMO-free. Genetically Modified Organisms (GMOs) or genetically engineered (GE) foods are plants or animals whose DNA has been altered in ways that cannot occur in nature or in traditional crossbreeding, most commonly in order to be resistant to pesticides or produce an insecticide. In most countries, organic crops contain no GMOs and organic meat comes from animals raised on organic, GMO-free feed.



6. Do 'organic' and 'natural' mean the same thing?

No, "natural" and "organic" are not interchangeable terms. You may see "natural" and other terms such as "all natural," "free-range" or "hormone-free" on food labels. These descriptions must be truthful, but don't confuse them with the term "organic." Only foods that are grown and processed according to organic standards can be labeled organic.

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7. Are organic foods better than conventional foods?

- ▶ Many pesticides found on conventionally grown produce are linked to cancer and birth defects
- ▶ Organically grown produce often has up to 30% more nutrients than conventionally grown produce
 - Soil quality
 - Slower growing
- ▶ Environmental impact

8. Organic farming and locally grown produce

Instead of synthetic pesticides or fertilizers, organic farmers rely on biological diversity in the field to naturally reduce habitat for pest organisms. Organic farmers also purposefully maintain and replenish the fertility of the soil.

Organic vs. Non-organic Produce	
<p>Organic produce:</p> <ul style="list-style-type: none"> • No Pesticides in production • Grown with natural fertilizers (manure, compost). • Weeds are controlled naturally (crop rotation, hand weeding, mulching, and tilling). • Insects are controlled using natural methods (birds, good insects, traps). 	<p>Conventionally grown produce:</p> <ul style="list-style-type: none"> • Pesticides used • Grown with synthetic or chemical fertilizers. • Weeds are controlled with chemical herbicides. • Insecticides are used to manage pests and disease.

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9. Locally Grown Fruits and Vegetables

What is local food? Unlike organic standards, there is no specific definition. Generally local food means food that was grown close to home. This could be in your own garden, your local community, your state, your region, or your country. During large portions of the year it is usually possible to find food grown very close to home at places such as a farmer's market.

9.1 Why people buy locally grown food?

Financial benefits: Money stays within the community and strengthens the local economy. More money goes directly to the farmer, instead of to things like marketing and distribution.

Transportation issues: In some States, for example, the average distance a meal travels from the farm to the dinner plate is over 1,000 miles. This uses a lot of fossil fuels and emits carbon dioxide into the air. In addition, produce must be picked while still unripe and then gassed to "ripen" it after transport. Or the food is highly processed in factories using preservatives, irradiation, and other means to keep it stable for transport and sale.

Fresh produce: Local food is the freshest food you can purchase. Fruits and vegetables are harvested when they are ripe and thus full of flavor

Small local farmers often use organic methods but sometimes cannot afford to become certified organic.

10. LEARNING ACTIVITIES

1. Discussions directed on the question and answer of participants.
2. Group discussions. on how best exemplify the preparation of food for a healthy diet.
3. Practical exercises.
4. Answers to common questions of the participants.

IV) Recommended readings:

Schusky EL. Culture and Agriculture: An Ecological Introduction to Traditional and Modern Farming Systems. New York: Bergin & Garvey; 1989.

Pollan M. Food Rules: An Eater's Manual. USA: Penguin Group; 2009.
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Martinez S, Hand M, Pra M Da, et al. Local Food Systems: Concepts, Impacts, and Issues. USDA Economic Research Service; 2010.

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