Canadian Organic Growers

Perth–Waterloo–Wellington

How is Our Food Produced?

Many of us have begun to think about WHERE our food is produced and are choosing to buy more locally, but HOW our food is produced makes more of a difference for air quality and the environment, our health and our local community.

Local, organic, conventional, local food plus (LFP), natural, pesticide-free, non-GMO, free-range – there are many terms used to describe HOW our food is produced. This info sheet explains those terms to help you make an informed choice about the food you eat.

The Sustainable Food Production Continuum

Conventional – an agricultural system developed over the last 60 years, characterized by mechanization, monocultures and the use of synthetic inputs such as federally-approved pesticides and fertilizers, GMO seed and feed, antibiotics and growth hormones.

Local – produced in your county/region using conventional faming practices. Some producers may choose to not use pesticides or GMO feed, or may raise free-range (providing room for animals to move about freely) meat, but without knowing the producer there is no guarantee of these practices. As well the terms natural, naturally-fed, and no spray may be used, but these terms are unregulated and can be misleading.

Local Food Plus (LFP) – a certification system to identify locally grown, sustainably produced food products. Developed to support conventional producers using more sustainable methods such as integrated pest management. Growth hormones, antibiotics and GMOs are not permitted. Synthetic pesticide and fertilizer inputs are permitted, but restricted.

Certified Organic – an agricultural method adhering to a national set of standards that prohibits the use of chemical fertilizers and pesticides, GMOs, growth hormones, and antibiotics in the production of food; and the use of fungicides, irradiation, preservatives and additives in the processing of food products. (But organic is much more than what it doesn't allow. See *Why Buy Organic* for what organic production does – such as build soil.) Certified organic farm and processing practices are verified by an annual inspection.

Certified Biodynamic – a method of organic farming that emphasizes the soil, plants, and animals as a closed, self-nourishing system. Biodynamic producers use an astronomical sowing and planting calendar. Biodynamic farms follow a set of standards and are verified and inspected annually.

For the food system to be sustainable, local is not enough. We also have to consider how food is produced.

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What are synthetic fertilizers?

Synthetic fertilizers are used to 'fertilize' soils and are mainly derived from non-renewable fossil fuels. The extensive and excessive use of chemical fertilizers has increased the amount of greenhouse gas emissions (nitrous oxide N_2O) into our atmosphere, has disrupted our soil's nutrient holding capacity and has allowed excess nutrients to runoff into our waterways resulting in algal blooms, which have lead to excessive mortality rates for fish and other aquatic organisms.

What are pesticides?

Pesticides are synthetic chemicals used to control weeds in fields and unwanted or harmful pests, such as insects and mites that feed on crops. Many food crops, including fruits and vegetables, still contain pesticide residues after being washed or peeled. There is growing consensus in the scientific community that small doses of pesticides can adversely affect people, especially children.

What are growth hormones?

Animal growth hormones are used to boost growth rates and body mass in livestock. There is some evidence to suggest that hormone residues in food can disrupt the natural "endocrine equilibrium" (hormone balance) which exists within everyone's body. For children, this could mean an early onset of puberty.

Why are antibiotics used on animals?

Food animals are often kept in large, high-density groups and are typically raised to slaughter weight before they reach physical maturity. In these settings it is not surprising that they develop and spread infectious diseases easily. In response, farmers use antibiotics liberally to keep their stocks healthy. Entire groups of animals are treated as soon as clinical symptoms appear in one animal, and many groups of animals are treated before symptoms appear. Such widespread use of antibiotics can and has lead to the development of resistance.

What are genetically modified organisms (GMOs)?

GMOs are products of genetic engineering (GE). GMOs can be found in a number of the foods we eat. Unintended health impacts from GMOs can include: allergens, nutritional deficiency, increased toxins and antibiotic-resistance.

What is food irradiation?

Food irradiation is a process in which foods are exposed to a controlled amount of "ionizing radiation" in order to kill harmful bacteria such as E. coli and Salmonella. The process does not make food radioactive. However, the substances used to create the "ionizing radiation" are known carcinogens and there is some evidence that the irradiation process creates new chemicals, a class of cyclobutanones, which have been found to cause genetic and cellular damage in human and rat cells.