What is Organic?

- Scientific definitions:
  - Biology: anything that is living or has lived
  - Chemistry: any compound that contains carbon

- Mainstream definitions:
  - Many, such as “naturally grown without the assistance of synthetic chemical pesticides or fertilizers.”
  - “Sustainable” should also be a feature

Certified Organic Vegetable Production

- “A production system that is managed in accordance with the National Organic Program to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.”

Characteristics of Organic Farms

- Soil conditioning is maintained through the heavy use of composted and naturally occurring plant and animal material incorporated into the soil profile; green manure and cover crops, and, crop rotation.
- Soil fertility is depended upon the continuing activity of minor organisms such as earthworms and bacteria to digest organic matter and convert it to compounds available to plants.
- Pest control is advanced by “healthy” soil, plant resistance, selective and limited use of pesticides that pose little or no adverse effect to the soil, crop, environment and human health.

http://aggie-horticulture.tamu.edu/foodsafety/commOrganicVegProd/introduction.html
Marketing Organic Produce

- Approximately a 20% annual growth
- Large businesses are now involved, so now it is regulated:
  - Only certified organic or exempt organic farms may use “100% Organic” or “Organic” to describe their produce
  - Subject to fine (up to $10,000 in Texas)

Regulated Activities

- Land History
- Documentation & Recordkeeping
- Farm Management
- Soil Management
- Weed Management
- Insect Pest Management
- Disease Management
- Operator Management

Includes all production practices and inputs

Must have Organic System Plan

- Description of practices & procedures, including frequency they will be performed
- List each substance to be used, including composition, source, & location it will be used
- Description of monitoring practices and procedures to be performed to verify plan
- Description of recordkeeping system
- Description of management practices and physical barriers to prevent mixing with non-organic produce or practices
Land History

- Certified organic harvest occurs at least 3 years after use of prohibited material or practice
- Transitional: Satisfied all requirements except for 3 year history
- Production practices and inputs are classified as:
  - Permitted
  - Prohibited
  - Regulated

Documentation & Record Keeping

- Producer must maintain records of all production practices, harvest dates, yields, product inventory and sales
- Complete record of purchases, inventory and usage of on-farm and off-farm inputs including application dates, rates, types of materials used and equipment used for application

Farm Management

- Farms must allow annual inspections to verify compliance
- Farms must allow additional announced or unannounced inspections at the discretion of certifying agency
- Farms rated for degree of compliance in each category
Soil Management

- Aimed at increasing the soil’s organic content through crop rotation, cover cropping, manuring and/or composting
- Must consider conservation practices
  – Erosion control, Water management

Weed Management

- Use of any synthetic herbicides not included on the National List (including spot spraying) is prohibited
- Preventative weed management is encouraged (crop rotation, cover crop, mulching)
- Extensive cultivation is discouraged (poor soil management)

Insect Pest Management

- Based on integrated pest management principles (IPM)
  – Relies on crop selection, planting dates, resistant varieties, crop rotation, trap crops, etc…
- Allowed:
  – Mechanical, beneficial organisms, biological pesticides (some are “regulated”) insecticidal soaps, pheromones, diatomaceous earth
Disease Management

- Should also be based on IPM strategies, paying close attention to the environment favorable to disease development
- May use substances allowed by the National Organic Standards if preventative methods do not control diseases

Operator Management

- Producer or Manager should have a thorough knowledge of organic standards and certification procedures
- Must complete paper work entirely and timely
- Must be cooperative with inspectors

Food for Thought

- Is Organic Food More Healthy?
  - Some studies have shown an increase in some phytochemicals in organic production
  - Does the precautionary principle apply to organic products?
    - Have all organic products been studied as extensively as synthetic products?