

5 – Conditions that must be provided in the materials used in the resistance against Pests and diseases:

- A - To be non-toxic to humans, plants or animals.
- B - Not suck within the plant, but is working from the outside.
- C - Not have the status of accumulation in the soil.
- D - The use of biomaterials such as microbial or plant extracts in the control must
Be taken from non-genetically engineered sources.

6 - Places of processing materials or organic products:

- A - Not to mix or allow mixing organic product with another product did not produce organic way.
- B - The cleaning and disinfection materials that are used in places of processing organic products are water or hot water and soap, ethanol, vapor and a strong stream of air to remove dust and suspended solids, and absolutely does not allow the use of toxic substances in the clean-up operations or cleansing even not pollute Organic product by this material.
- C - The water used in the cleaning or disinfection must be drinking water or any water is clean, non-staining.
- D - Must clean toilets for workers exist, places to wash and disinfect the hands of workers before starting work, wear workers hoods appropriate head during the sorting and packing of organic, wear workers to clean clothes before you start work, in addition to follow all the means that lead to a lack of organic product of microbial contamination exposure.

ORGANIC AGRICULTURE

3rd. lect. Theory – Horticulture Dept. D. Jehad Sh. Kader

The most important characterizes of organic agricultural products:

- 1 - Not allowed using radiation at all phase produce, storage and export.
- 2 - Encouragement existence system vital balanced includes on the plants, animals and micro-organisms and soil.
- 3 - Usage safety and health of water irrigation and it sources and prevent contamination.
- 4 - Exploitation available local resources in safety at produce products agricultural organic.
- 5 - Decreasing all forms of pollution and materials that have related genes revised genetically.
- 6 - Production of organic products have ability on complete degradable.
- 7 - Availability of healthy climate and safety for workers at field during producing products organic during the work.

The nutritional value of organic agricultural products:

In the study of many fruit and vegetable crops in order to compare the nutritional value of some cultivated varieties and traditional system than that produced organic system, it shows that agricultural crops produced organic system contained on quantities top much from vitamin (c), iron, magnesium and phosphorus comparison the instance cultivated by traditional methods. Studies have shown that the most important results obtained is that organic products contain much higher important for human nutrition content of food metals less often very harmful to human health, the heavy metal content, as studies have shown that crops resulting from organic farming content higher of protein, vitamins, sugars and nutrients minor compared to those produced by conventional methods.

ORGANIC AGRICULTURE

3rd. lect. Theory – Horticulture Dept. D. Jehad Sh. Kader

Safe of use of chemicals in organic farming:

Used at organic farming all chemicals that will be safety and non-harmful for the plant, animal, human and the environment. And the depend on the way for resistance plant disease under this system of agriculture it's to prevent the arrival of pathogen to living tissue of plants (protection), it based on the use of some of chemical material that authorized under bio - organic farming systems are:

- Extracts and vegetable oils –it use for resistance of different fungal disease.
- Spray with agricultural sulfur –it use for resistance of powdery mildew disease.
- Copper sulfate – it use for resistance of downy mildew disease.
- Potassium soap –it use for fungi aspergillus causative mold black.
- Potassium permanganate –it use for resistance of different fungal diseases.
- Extracts or antibiotics – it use for different fungal and bacterial diseases.
- Some solutions, such as salts (carbonate and sodium bicarbonate or ammonium and sodium silicate and cobalt salts) –it use for different fungal disease.
- Anti - transpiration (such as kaolin bentonite) –it use for powdery and downy mildew and mold gray and mild and fungal and bacterial blight.

Use these chemicals safety and not harmful to humans and the environment as well as crop products which launch on her alternatives pesticides on basis it the preventing access causative the disease from access to the host and make damage on it.

Sources of nutrients in the soil:

One of the main sources of processing necessary for plant growth and that contribute to the compensation the loss of nutrients from soil solution they are:

1 –The solid phase for soil system components:

The solid phase for soil system components, its considered warehouse for most nutrient elements except nitrogen and sulfur, and that the content of most of the soils of these elements, hundreds of times more than the needs of the crops grown, but the quantity ready for absorption by the plant of these elements may be few and do not meet the needs of agricultural crops. it said that as part of organic (organic matter) from the solid phase of the system soil is of provision ability of some nutrients, such as nitrogen, phosphorus, sulfur and certain minor nutrients, and this depends on the (type of organic matter, the source of organic matter and availability of microorganisms that in the process of decomposition in addition to provide the appropriate conditions for the decomposition of temperature and humidity, among others.

2 – Rain:

Considered rain it's a natural sources of preparation the soil of some nutrient elements such as sulfur and nitrogen, where at areas nearby from factories which released off sulfur on form SO and SO₂, it less use of fertilizers containing sulfur because of what add rain quantities it may be sufficient of the requirements from cultured crops, as estimated annual amount of sulfur added to the soil by rain at about 15-100 kg sulfur / ha.

3 - Fertilizers chemical and organic:

The importance come from chemical and organic fertilizers especially (Chemical) in rapid compensated from the shortages located at the soil from nutrient elements that important for the plant, as well can control at type elements and its quantity to be added to the soil to compensate that shortage, in addition to easier for use and add to plant, and rapidly response from the yield and that reflected on improve quality and products.

ORGANIC AGRICULTURE

3rd. lect. Theory – Horticulture Dept. D. Jehad Sh. Kader

Soil Fertility and the factors that affecting by:

What is the mean of **Soil fertility**: The capacity of soil on supply nutrient elements by quantities and the forms that appropriate for plant growth and this is reflected in the positive growth of the crop and production.

Among the factors affecting the fertility of agricultural land are:

1 – Degree of soil acidity (pH - Soil):

The valuable of pH soil agricultural ranges between 3.5 (the soil most acidity) and between 10.5 (the soil most alkaline). And valuable the pH most common soils agricultural most production ranging between (5.5 to 8.2), and soil acidity its affect in plant growth and development through its impact on the readiness of the nutrients elements in the soil, which are needed for plant growth, and the values between the (6-7) is best suited to take advantage of the nutrients elements by most plants.

2 –Soil texture and metal installation:

The solid phase system of the soil it consists from two parts they, ingredients mineral and components organic, the section metal distributed by size to grains of the sand, silt and clay and locution about him “soil texture “ and from which can identify on properties the soil physical and chemical, and the components of organic it’s old organic materials have a resistant to decomposed or the materials and organic leavings that don’t decomposed yet.