

Conditions success vegetable cultivation in the region:

1. Provide suitable climatic condition for the crop cultivation. Such as (Temperature, light, relative humidity, rainfall) in unknown region.
2. Provide suitable soil moisture or irrigation source nearby for the vegetable crops that not bear the drought.
3. Availability of suitable soil for the crop growth.
4. Provide nearby markets for the exchange of crop.
5. Provide transport modes.

Problems of vegetable production:-

Diverse problems face the vegetable production enterprise, these problems can be:-

1. Biological
2. Climatically and Environmental
3. Economic

1. Biological problems: -

- 1-Perishable nature of vegetables
- 2-Pests and disease problems

2. Climatic and Environmental problems: -

1. Temperature
2. High relative humidity
3. Inadequate /Excessive rainfall and distribution
4. Unavailability of land
5. Lack of high-technology production package

3. Economic problems: Marketing and distribution

Transplanting or replanting: Is the technique of moving a plant from one location to another. Most often this takes the form of starting a plant from seed in optimal conditions, such as in a greenhouse or protected nursery bed, then replanting it in another, usually outdoor, growing location. Botanical transplants are used infrequently and carefully because they carry with them a significant risk of killing the plant.

The benefits of transplanting:

- 1- Economy in exploit the land: if the nursery within the field it need small area and can exploit the rest of the land to other crops
- 2-The earliness of the agriculture date: in many times cannot be planting seeds early in field, because the weather conditions are not appropriate, therefore planted the seeds in the green house until the provision of appropriate conditions.
- 3- Economy in the seed quantity: when planting in the field directly uses more mount of seed but in the nursery there is less loss of the seeds.
- 4- Seedlings attention is easy: because the seedling in the small area the attention of it and serve is easier than if they are present in field.
- 5- Obtain the homogenous plants because select large seedlings and transfer it to the field.

The effect of transplanting process on the plants growth:

Transplanting process harmful because it may delay growth and weaken the plant. The reason may be due to cut of fiber roots and some roots, vegetable crops different in the degree to bear transplanting.

- 1- Plants easy to transplanting: such as tomatoes, cabbage, broccoli, lettuce.
- 2- Plants not succeed transplanting by normal methods: cucumber, peas, beans, watermelon and melon.
- 3- Plants need attention in transplanting: eggplant, pepper, onion, celery.

Hardening:

Hardening means any dealing that happens to the seedling of the vegetables and leads to strengthening the cells of the plants which makes the seedling more resistible to the unsuitable external conditions

The operation of hardening happens before pulling the seedling up from their places in the nursery. The cells of the plant, before the operation of hardening are firm and soft and cannot resist the unsuitable external conditions of soil or the atmosphere surrounding the plant.

Hardening:

The hardening is a vital process and essential especially for seedlings developing wintry under the hood, which are making surrounding conditions less favorable for rapid growth. This is done by reducing irrigation gradually about (2) week ago from uprooting seedlings and then lack of irrigation for several days before the uprooting, but that did not get it out to the permanent wilting point. As a result of conducting the hardening process change occur within certain plants resulting in increasing the ability of plants to tolerate the difficult conditions that may be faced after the transfer to the permanent place

Ways of hardening:

1-The low temperature: Exposing the plants to low temperatures for a week or more before transplanting leads to increase the ability of the plants to bear the unsuitable conditions in the field after transplanting and this operation is done by

- 1-Reducing the warmness of green and plastic houses
- 2- Increasing the ventilation by opening the windows.
- 3- Transporting the plants to the cold beds.

2- Thirsting the plants: It is the best way which is advanced to be used in the operation of hardening and it is done by preventing or reducing the irrigation of the seedling before transferring them to the ever last place in the field for about 7-10 days avoiding reach the seedling to the stage of wilting

3- Irrigation the plants with a salty solutions: Irrigating the seedling by a salty solutions of sodium chloride or sodium bicarbonate before transplanting for a short period, leads to hardening them, but it may harms some vegetables so it is not very advanced.

4-Cutting up the roots: This is done by cutting the roots of the seedling from one side by a knife, and then cutting the other side of the roots after 3 days, but this way is not advanced because it may cause the death of the plant

Changes that take place during the hardening of the seedling:

1. Increase in the thickness of the cuticle layer.
2. Reduction in the growing speed in the plant
3. Reduction in the evaporation rate in a unit area.
4. Increase in the percentage of the colloidal and dissolved material in the plant.
5. The size of the leaves is smaller (in hardened plants).