

**Ministry of Education
Curriculum Planning and Development Division**

Level: Forms 4 & 5

CVQ Level 1 – Crop Production - Grow Box Operations

Unit Code	Unit Title	Mandatory/ Elective
AG00657	Plant Seedlings in Grow Box	Mandatory

Unit Descriptor:

This unit deals with the skills and knowledge required for preparing a Grow Box for planting. It describes the work expectations associated with preparing the growing medium and filling the grow box with the prepared growing medium.

ELEMENTS <i>Candidates must be able to:</i>	PERFORMANCE CRITERIA
2 Provide aftercare to transplanted seedlings in grow box	2.1 Water seedlings as instructed by the supervisor
	2.2 Treat plants according to supervisor's instructions
	2.3 Clean and store tools after use, according to organizational procedures

Personal Protective Equipment (PPE)

- ▶ Coveralls
- ▶ Steel-tip boots
- ▶ Gloves
- ▶ Helmet
- ▶ Goggles
- ▶ Hat



Source: <https://www.omrindustryjournal.com/personal-protective-equipment-ppe>

Materials

- Well-hardened seedlings planted in a prepared grow box

Equipment

- watering can
- hose
- hand trowel

Chemicals

- Nutrex

Providing
aftercare to
transplanted
seedlings in grow
box

Fertilizer application

- ▶ Using a watering can, apply a foliar fertilizer e.g. Nutrex, Fertex or Phostrogen at the rate of 3 g per litre of water (1 litre of solution is sufficient for 10 plants)



Drainage and Irrigation

Growing medium needs to be well drained and moisture levels maintained close to field capacity.

► Irrigation

- Water regularly as needed throughout the growing season, manually using watering can. Automated irrigation systems can also be used e.g. overhead sprinkler, drip irrigation
- Ensure that the soil is moistened thoroughly when watering



Using a watering can to irrigate crop



Using a overhead irrigation to irrigate crop

Cultural Practices - Weed Control

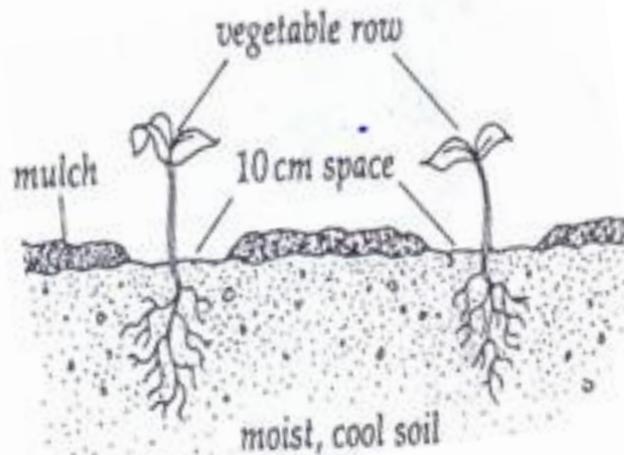


- ▶ Weeds can be controlled by:
 - ▶ Hand pulling
 - ▶ Apply mulch to suppress weed growth
 - ▶ Using a Selective Herbicide to chemically control weeds

Cultural Practices- Mulching

Plants thrive well in soil that is well drained and moist

- ▶ Mulching
 - ▶ Conserves soil moisture during the dry season
 - ▶ Reduces soil water loss due to evaporation
 - ▶ Protects the plant from soil borne diseases spread by soil splash.
 - ▶ Controls weeds during the rainy season
- ▶ Apply mulch around the base of plants, ensuring the mulching material does not come into direct contact with the plant.



Care and maintenance of tools after use

General guidelines for taking care of simple tools

- ▶ Simple tools must be well taken care of in order to ensure that they perform the tasks they were designed to do.

General guidelines for taking care of simple tools

1. Observe the tool for condition e.g. broken, needs repairs, needs sharpening, needs cleaning.

- ▶ Wooden handles should be well set, strong and durable.
- ▶ Moving parts should be well oiled and greased regularly

General guidelines for taking care of simple tools

2. Decide on appropriate action e.g.

- a. Clean the tool
- b. Repair where necessary e.g. fix handles, tighten parts, change parts, etc
- c. Sharpen if necessary before and after use.
- d. Metal parts should be well oiled and greased to prevent rusting.

General guidelines for taking care of simple tools

3. Tools should be washed and dried after each use and stored safely in a special room after each use.

EVALUATION

1. How is a foliar fertilizer e.g. Nutrex, Fertex or Phostrogen applied to plants in a grow box?
2. How are weeds controlled in a grow box?
3. What are 4 benefits of mulching?
4. Why must tools be properly maintained?
5. Identify 4 measures that can be taken when caring and maintaining simple tools

ANSWERS

1. How is a foliar fertilizer e.g. Nutrex, Fertex or Phostrogen applied to plants in a grow box?

Using a watering can, apply a foliar fertilizer e.g. Nutrex, Fertex or Phostrogen at the rate of 3 g per litre of water (1 litre of solution is sufficient for 10 plants)

ANSWERS

2. How are weeds controlled in a grow box?

- ▶ Hand pulling
- ▶ Apply mulch to suppress weed growth
- ▶ Using a Selective Herbicide to chemically control weeds

ANSWERS

3. What are 4 benefits of mulching?

- ▶ Conserves soil moisture during the dry season
- ▶ Reduces soil water loss due to evaporation
- ▶ Protects the plant from soil borne diseases spread by soil splash.
- ▶ Controls weeds during the rainy season

ANSWERS

4. Why must tools be properly maintained?

Simple tools must be well taken care of in order to ensure that they perform the tasks they were designed to do.

ANSWERS

5. Identify 4 actions that can be taken when maintaining simple tools

- a. Clean the tool
- b. Repair where necessary e.g. fix handles, tighten parts, change parts, etc
- c. Sharpen if necessary before and after use.
- d. Metal parts should be well oiled and greased to prevent rusting.

References

- ▶ The Grow Box
 - ▶ Retrieved from : <https://thegrowbox.blogspot.com/>