

# NORTH WEST DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT. FARMER SUPPORT SERVICES.

Propagation of crops and Seedling production

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# PRESENTATION OUTLINE

Presentation outline

Introduction

Seed quality

Direct seeding

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# 1. INTRODUCTION

- **Herbs and vegetable are propagated either by vegetative (asexual) or Seed (sexual) means depending on the crop.**
- **Asexual propagation involves taking part of one plant and making it to regenerate itself into a new plant. New plant is genetically identical to its parent. Also known as vegetative propagation: all plant parts are used except the seed to generate the new plant e.g cuttings (sweet potato vines), division (garlic: bulbs are divided into gloves), airlayering, grafting, budding, tissue culture.**
- **Sexual propagation involves the union of pollen and egg coming from the genes of two parents to create a new plant. Seed is formed.**
- **Most of vegetable are produced from true seed e.g onion, spinach, green pepper, beans, carrots, cabbage, melons and pumpkins.**
- **Seeding can be done directly into the soil or indirectly into the seed trays and later transplanted to soil.**



# Seed quality

- Important to use quality seed that is true to type.
- high germination percentage.
- High growth vigour.no dormancy.
- Free from diseases.
- Free from foreign matter.
- Two types of seed are available:
  - Open-pollinated and hybrid seed
  - Open-pollinated is the seed you keep from the previous harvest and cheap.
  - Hybrid is certified seed and expensive. Bred from different parents.



# Direct seeding

- Land preparation for direct seeding.
- Soil should have a good tilth
- Firm and level.
- Small seeds drilled to a depth 10-15 mm.
- Sowing is generally deeper on sandy soil than clay.
- larger seeds can be planted slightly deep than small seeds.
- After planting, firm down the soil to create good contact between soil and seed.
- Apply light irrigation.





# Indirect seeding

- Can be done in seedling trays in shade houses.
- Trays must be sterilised with fungicides and pesticides before planting.
- Apply the growing medium (well decomposed pine bark).
- Seed is planted mechanically into the tray cavities and then lightly irrigated. Use watering can.
- Different seeds germinate in different rates, some in different days but they should germinate by two weeks time if viable.
- Trays are available in plastic or polysterrene.
- Plastic trays are heavier and durable whereas polystyrene are lighter and easy to break.
- Trays used for large scale production are usually about 670 mm long, 340 mm wide and 50 or 60 mm deep.
- Number of cavities vary per tray. Many growers prefer trays with 200 cells.



# Care Before transplanting and hardening off of seedlings

- Seedlings need irrigation, nutrients, sunlight and good temperature for normal growth.
- Liquid fertiliser is essential for a normal growth.
- Seedlings are large enough for transplanting when they have three to four true leaves.
- Seedlings need to be hardened-off before transplanting.



# Conclusion

# THE END

