FIELD, PESTS, & DISEASE
DIAGNOSTICS IN SEED CROPS

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WEED MANAGEMENT

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INTRODUCTION

• Aim:
  Highlight the most basic weed control methods to reduce weed infestation in a crop

• Practices used to reduce the growth and development of weeds:
  - prevention
  - eradication
  - control
  - limitation
Introduction

- **Prevention**
  - take measures and reduce establishment of weed species in area
  - stop introduction, propagation, and spread of weeds

- **Eradication**
  - best for success
  - rarely achieved
  - totally kill weeds and eliminate propagation
  - not possible because of trillions of weed seeds in the soil & other reproductive organs
Introduction

• Control

- reducing weed infestation for the benefit of the crop
- essential timely control
- must be done early when weeds are young
- the species of weeds dictate the success of control
Four General Weed Control / Methods

- Cultural Control
  - employs practices common to good land preparation and management
  - use of weed free crop seed
  - crop rotation
  - weed free fertilizers

Note: Our crop land soils harbour millions of dormant weed seeds that readily germinate when conditions are favourable.
Weed Control / Methods

• Mechanical Control
  - practices: hand pulling, hoeing, flooding, mowing
  - using mulches to smother weeds (horticulture)
  - machine tillage
  - row plowing
  - roguing
  - burning (in special cases)
Weed Control / Methods

• Chemical Control

- use of herbicides = greatest possibilities of relieving human labour and back-breaking (physical agony)

- phytotoxic chemicals: synthesized in the 1950s-1960s = herbicides
Herbicides: Best Weed Control

- Part of the general group of chemicals called pesticides
  - Selective and non-selective
- Soil applied
  - Foliar applied
  - Long life residual
  - Short term activation
- Contact
- Translocating
Herbicides

• If misused, can cause extensive economic loss

• Importance of reading labels prior to using:
  - dosages used
  - time of application
  - weeds to control
  - crops in question
  - minimum residual levels
  - toxicity to human beings & environment
  - precautions to apply in case of poisoning
Negative Effects of Herbicides

- Many considerations
- Most effective and potential weed killers
- Possible environmental pollutants
- Carcinogenic
- Water pollutants
- Herbicide degradation in the tropics due to various climatic conditions
- Note: Knowledge and expertise required
Thank you!