

Ministry of Higher Education
Salahaddin University
College of Agricultural Engineering Sciencies
Plant Protection Department



Weeds and Weed Control
Second Grade
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Lecture 2

Weeds and Weed Control



Four major advances in agriculture have significantly increased **food production**:

1. The introduction of mineral fertilizer.
2. Agricultural mechanization, which began in the United States with Eli Whitney's invention, the cotton gin, which separates cotton from its seeds in 1793

Weeds and Weed Control



3. Genetic research in plant and animal production which leads to improve the yields quality and quantity
4. The use of pesticides and plant growth regulators in agricultural practices all over the world.

Prevention



Some important terms: -

1- Prevention:

It means stopping a given weed species from contaminating an area, is often the most practical methods of controlling weeds.



Control

2- Control:

Refers to those actions that lead to restrict the spread of weeds and reduce their population in a given location. The weeds are limited so that they have minimal effect on crop growth and yield.



Eradication

3- Eradication:

Is the complete elimination of all living plants, including their vegetative propagates and seeds.

Eradication is much more difficult than prevention or control.

In general, it is justified only for the elimination of a serious weed in a limited area—for example, a perennial weed in a small area of a field.



Noxious Weeds

4- Noxious Weeds:

Plant defined by law as being especially undesirable, troublesome, and difficult to control.

Cynodon dactylon



5- Nuisance Weeds:

Nuisance weeds are common throughout the Province and are often native species.

Due to their abundance and biological suitability, it is difficult to eradicate nuisance weeds.

Lepidium draba





6- Invasive weed species:

Are introduced plants that grow, spread and take over a new habitat beyond their natural range. They are usually introduced inadvertently by human activity.

Carduus acanthoides



Weed and Weed Control



Weed control:

Refers to those actions that seek to restrict the spread of weeds and destroy or reduce their population in a given location.

❖ **The effectiveness of weed control is affected by:**

The effectiveness of weed control is affected by:



1. Timing of weeding operation.
2. Nature of the weed problem.
3. Methods of weed control available to the farmer.
4. Type of weeds to be controlled.
5. Cost of the operation.
6. Available labour or cash resources.
7. Environmental condition before, during and after the time of operation.

Weed Management Strategy



Use control strategies based on:

- Identify weed.
- life cycle,
- Habitat
- Environment condition.



Types of weed management:

1- Prevention:

means stopping a new weed from invading an area or limiting weed buildup in a field.

Prevention is practiced by:

Types of weed management:



- a. Preventing weeds from setting seeds.
- b. Use of clean crop seed for planting.
- c. Use of clean machinery.
- d. Controlling the movement of livestock.
- e. Quarantine laws services.
- f. Stopping the spread of vegetative reproducing perennial weeds..



Types of weed management:

2- Control:

- Process of limiting weed infestations and minimizing competition.
- In crops, weeds are controlled to have minimal effect on crop growth and yield.
- Degree of control is a matter of economics, balance between cost of control and crop yield loss.
- Used only after the problem exists; it is not prevention.



Types of weed management:

3- Eradication:

- Complete elimination of all living plants including their vegetative propagates and seeds.
- More difficult than prevention and control.
- Justified only for the elimination of serious weeds in a limited area, for example: perennial weed in a small area of a field.



Types of weed management:

- In weed science, prevention is better than control, but control is required because weeds arrive without notice and are present before they are prevented.
- Prevention and eradication require long-term thinking and planning.