

Ministry of Higher Education
Salahaddin University
College of Agricultural Engineering Sciences
Field Crops and Medicinal Plants Department



Principles of Field Crops
Second Grade
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Instructor: Saber Wasman (PhD)
Lecture 9

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Weed and weed Control



A weed may be defined as;

- 1-** A plant out of place or
- 2-** A plant growing where it is not desired or
- 3-** A plant that does more harm than good.

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Disadvantages of Weeds

- Weed cause a direct loss to farmer in the following ways
- They lower the selling value of the land
- It reduce crop yield
- It reduces the market value of crops
- Some of them be poison plant which injure livestock

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Advantages of weeds

- It adds organic matter to the soil
- It adds mineral nutrient to the soil
- Prevent the leaching of nutrients from the soil

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Classification of Weeds

Weeds may be classified into **three groups** according to their duration or length of life:

1- Annual weeds: It is two types
Summer and winter annual weeds

2-Biennial weeds

It lives two years during the first year they grow rather slowly producing root, leaves close the ground, during the second year, they send up flowering stems that produce seed and then die.

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3-Perennial weeds

Perennials are those weeds which live on, from year-to-year, and may appear to die-off in the fall like an annual does, but their roots remain alive.

They live over winter from year to year either above or below ground. The underground parts may consist of underground stems root. Perennial weeds are often difficult to eradication.

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Persistence of weeds

Weeds are usually able to survive in competition with crop plants because:

- 1- A wide range of adaptability
- 2- They produce large amounts of seeds per plant
- 3- They are propagated by underground parts

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Dissemination of Weeds

A- Natural methods:

- 1- Seeds with barbs or hooks become attached to animal, birds
- 2- Wind for distance of 2-15 miles
- 3- Weed seeds are often carried to other locations by rain or in streams

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B- Man-made method

- 1- Hay, straw and other forages also have contributed to the spread of weed seeds.
- 2- Farm machinery may spread weed seeds, plow, harrows and cultivars may drag roots or seed-bearing portions of perennial plants to other parts of field.

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Control of Weeds



Weed control is the process of inhibiting weed growth and limiting weed infestations. The more common methods used are

- 1- Cultivation
- 2- Smothering
- 3- Mowing
- 4- Pasturing
- 5- Chemical herbicides
- 6- Flaming
- 7- Crop rotation
- 8- The use of clean seed

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Cultivation



The processes of tillage by destroying weeds with the hoe, plow or cultivator not only kill the living weeds but prevent the seeds from maturing but where the perennial weeds such as Johnson grass has creeping root stock.

Cultivation is not desirable in some cause bare summer fallow in some time practiced for cleaning old weeds field, then the land should be plowed in the early summer and disked or harrowed often enough during the summer to induce seed germination and then kill the plant that come up.

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Smothering



The growing of a heavy, dense cover of some crops such as cow peas and soybeans that will outgrow the weeds and deprive them light, water and plant nutrients is a method of control persistent weeds.

This is good method for control Bermuda grass.

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Mowing

- Mowing must be done before the seed pods are formed, as many weed plants have ability to mature seed even after being cut.
- The frequent mowing is necessary in alfalfa to prevent weeds from maturing seed and tends to exhaust the root reserves in perennial weeds.

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Pasturing

- Certain types of weeds may be controlled by pasturing with sheep, goats or hogs.
- Many weeds, however, are not palatable to livestock and therefore would not be controlled by pasturing

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Chemical treatment:

Herbicides are now used extensively in controlling weeds. It is used in three general ways.

- 1- Pre-planting application before the crop is planted
- 2- Pre-emergence application: they are sprayed on the ground after the crop is and before it emerge from the ground
- 3- Post-emergence applications on weeds and crops growing together. The herbicides have a selective action. The weed are killed but the crops are unharmed

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The rate and time of herbicide application are more important to give a good result for weed control without harming the crops. Small weeds are easier to kill than large ones.

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