



S.G.V.C Vidya Prasarak Trust's

M.G.V.C ARTS, COMMERCE AND SCIENCE COLLEGE
MUDDEBIHAL-586212

DEPARTMENT OF BOTANY

CERTIFICATE


Examination Seat No: S1827813

Class: B.sc 5th sem

This is to Certify that, Mr/Mrs. Vidyashri. S. Pati

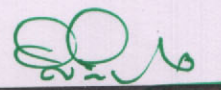
Has satisfactorily completed Project work on" Weed management

**"Under my supervision in M.G.V.C Arts, Commerce
and Science College Muddebihal year 2020-2021**


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Content

- ✓ **Introduction of weed**
- ✓ **Weed control**
- ✓ **Losses of agriculture**
- ✓ **Problems due to weed**
- ✓ **Principles of weed management**
 - ❖ Prevention
 - ❖ Eradication
 - ❖ Control
- ✓ **Invasive weed concept**
 - ❖ Perception to cause harm
 - ❖ Environmental harm
- ✓ **Methods of weed**
 - ❖ Mechanical method
 - ❖ Cultural method
 - ❖ Chemical method
 - ❖ Biological method
- ✓ **Classifications of weed**
 - ❖ Annual weed.
 - ❖ Perennial weed
 - ❖ Biennial weed



Introduction :-

Weeds are the unwanted or undesired plants which interfere with the utilization of the land and water resources and thus adversely affect human welfare. They can also be referred as plants out of place. Weeds can compete with the productive crops or convert productive land into unusable scrub. Weeds are also poisonous, distasteful, produce thorns or other day my aging body parts or otherwise interface with the use and management of desirable plants by contaminating harvest or excluding livestock. Weeds tend to thrive at the expense of the more redefined edible or ornamental crops. They provide competition for space, nutrients, water and light.



Weeds :-

Weeds are unwanted and undesirable plants that interfere with the utilization of the land and water resources and thus adversely affect crop production and human welfare.

Weeds directly or indirectly affect the agricultural and horticultural crops such as

- 1) Reduction in crop yield
- 2) Reduction in land value
- 3) Loss of quality of crops produced, . loss of human efficiency.

The weed management controlling the three methods they are

- a) Physical method
- b) Chemical method
- c) Biological method
- d) Cultural method



Invasive weed concept :-

Invasive weed is defined as the species that is, non native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or human health.

Characters :

- • Rapidly growth Ex – Parthenium
- • Less requirement for development
- • Potentiality is more for adaptation
- • Resistance to overcome from diseases.



Invasive weed concept and causes of their dominance :-

Preamble :

An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Perception to cause harm :

If invasive did not caught harm. We would not be neatly as concerned. Preceptions of relative benefit and harm also may change as new knowledge is acquired or as human values or management goals change.

Non-native introduction provide benefit to society and even among species that technically meet the definition of invasive.

Societal benefits may greatly exceed any negative effects (for example crops and livestock raised for food).

However in some cases any negative effects are clearly overshadowed by negative effects.



For example : water hyacinth has been popular in outdoor aquatic gardens but it's escape to natural areas where it's population, have expanded to completely cover lakes and rivers has devastated water bodies and the life they support especially in the south eastern U.S. Because invasive species management is difficult and often very expensive these worst offenders are the most obvious and best targets for policy attention and management an invasive weed that is undesirable as a food source may outcompete and displace native grasses and broadly of plants. These displaced native grasses and broad leaf plants may have been primary forage for animals.



Environmental harm :

We use environmental harm to mean biological significant decreases in native species population alternation to plant and animal communities are to ecological processes that native species and other desirable plants and animals and human depend on for survival. Environmental harm may be a result of direct effects of invasive species, leading to biological significant decrease in native species populations.

Examples of direct on native species include preying and feeding on them,

Causing or rectoring disease, preventing them from reproducing or killing their young out-competing them food, nutrients, light, nest , sites or other vital resources or hybridizing with them so frequency that within a few generations, few if any truly individual remain. Environmental harm also can be the result of an indirect effect of plant decreases the other food that they provide and that the water flow depend Upon.

Mechanical method :-



Many specialized machines and attachment are used in Forest vegetation management, including brush rakes, angle blades, shearing blades, rolling brush cutters and shredders. Large offset disk and integral plows and sometime used. In addition, chain saws, axes, brush hooks, powered brush cutters, hatchets and other hand tools can be used in weeding operations. On gentle slopes, mechanical means of site preparation and rehabilitation are generally sufficient to remove debris control weeds, prepare seedbeds, reduce soil compaction caused by logging and carry out minor land levelling operations.

- Tillage :- It remove the weed from the soil it causes injury to root and prunninh to shoot of weeds are buried also at the time of tillage .
- Hoeing :- Hoeing is widely used weeding tool for centuries. It is very useful for annual and biennial weeds. The under ground growth is not much affected.
- Hand weeding :- It is done by pulling out weed from the field pulling out is done with the help of kurpi.
- Digging :- It is practiced especially for the removal of shrubby and stubby nobody perennials.
- Mowing :- The process of moving is done by mower machine and hand blade having long cutting edge about one metre.
- Burning :- It destroyed aerial portion of the weed directly through the flance of the fire and under ground portion through the heat effect.

Cultural method



Cultural weed control is simply carrying out those practices that favor the desired tree species and make them more competitive with weeds. Examples include the following:

- Select the best adapted species and varieties.
- Practice through site preparation.
- Plant vigorous, large, healthy seedlings.
 - Plant seedlings at the appropriate spacing and replace that die.
 - Apply necessary insect, disease and rodent control measures.
 - Maintain optimum stocking level for the site at each stage of stand development.



Chemical method :-

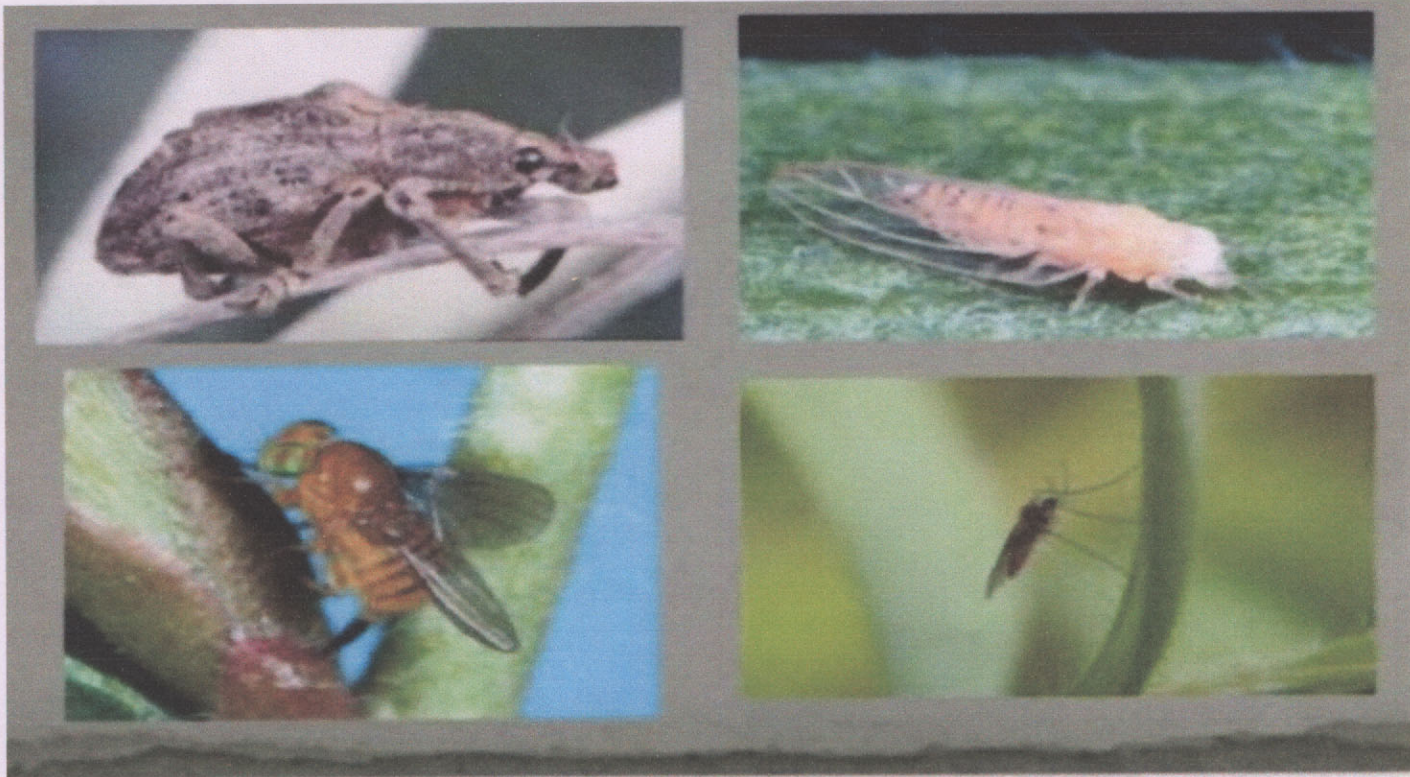


- In this method chemicals are used for weed control the chemicals employed for weed control are commonly referred to as “weedicides or herbicides”
- Hand weeding injures the root system of crop also and this damages the crop.
- Herbicides give quick response intermesh of checking of the growth of weed.
- The use of herbicides reduce the requirement of manual labour.
- Herbicides reduce the need of preplanting tillage in case of minimum tillage herbicides and very much successful.

Chemical control methods

- Foliar applications
- Cut stump applications
- Rope wick applications
- Soil applications
- Basal bark treatment
- Stem injection method

Biological method :-



Utilization of natural living organism , such as insects, herbivorous fish other animals, disease organisms and competitive plants to limit their growth. In biological control method, it is not possible to eradicate weeds but weed population can reduced This method is not useful to control all type of weed. Introduced weeds are best targets for biological control. The control **opuntia spp** in Australia and lantana in Hawaii with certain insects bioagents of two spectacular examples of early period biological control of weeds.



Classification of weeds :-

1) Annual weeds :-

These weeds complete their life cycle in one year. They grow vigorously in one year and form seeds. And later these seeds will germinate and grow as an individual plant in the next consecutive year. The annual weeds may be divided into 2 groups.

a) Summer annual weeds –

- 1) Germinate in spring season
- 2) Flower to mid to late summer
- 3) Reach full maturity in summer season
- 4) Seed set
- 5) Die in winter season
- 6) Ex : Lambsquarters, redroot pigweed, large crabgrass

b) Winter annual weeds –

- 1) Germinate in late summer or in beginning of the winter season.
- 2) Reach full maturity in spring season
- 3) Seed set
- 4) Die in summer season
- 5) Ex :. Shepherds purse, pepper g

Some exhibit their growth in both summer and winter annual habits.

Ex – common chickweed, speedwell's.

2) Biennial weeds :-

It complete the vegetative growth in the first season, flower and set seeds in the succeeding season and then dies. These are found mainly in non- cropped areas.

Ex – daucus carota, mullion, burdock

3) Perennial weeds :-

Perennials live more than two years and may live almost indefinitely. They adapted to withstand adverse condition. They propagate not only through seeds but also by underground stem, root, rhizomes etc. and then further classified into

- a) **Simple perennial weeds** : spread only by seeds. Vegetative reproduction can occur if the roots are cut into pieces and each piece will grow into a new individual weeds.

Ex – dandelion, plantain

- a) **Bulbous Perennial weeds** :- They spread by underground bulbs and also by seeds.

Ex – wild garlic.

- C) **Creeping perennial weeds** :- Plants that possess modified shoot and fleshy stem and reproduce through corm seeds. Ex – Timothy.