

**CROP LOSSES  
DUE TO  
WEEDS**

- It is estimated that some **1,800** weed species cause economic losses in crop production.
- About **300** of these are responsible for the serious economic losses in cultivated crops throughout the world
- Weeds are the most underestimated pest in the tropics and yet in no other part of the world do weeds cause so much yield reduction and so much human suffering
- Farmers in the tropics spend more time weeding than any other activity

## Table 3: Labour use for selected crops in Africa (man-days ha/crop)

Crop	Country	Land prep	Weeding	Harvest	TOTAL	% weeding
Maize	Ethiopia	21	39	12	72	54
	Ghana	54	43	16	113	38
	Malawi	26	57	36	119	48
	Nigeria	33	30	20	83	36
	Zambia	38	65	33	136	48
	B. Faso	25	42	11	78	54
G'nuts	Senegal	28	63	35	126	50
Cassava	Nigeria	68	45	70	183	25

# Losses caused by weeds

- Losses caused by weeds in agriculture represent costs to the farming community and these can be divided into **direct** and **indirect losses**

# **DIRECT LOSSES CAUSED BY WEEDS**

# Weeds reduce crop yield by interfering with crop growth

- This interference includes **competition** with crops for growth factors



- It also includes introduction of chemicals into the soils that will adversely affect the growth of crop plants (**allelopathy**)



# Maize crop reduction caused by weed competition

Weed species	Season long competition (%)
<i>Cyperus rotundus</i>	40
<i>Echinochloa colonum</i>	58
<i>Amaranthus hybridus</i>	40
<i>Cyperus esculentus</i>	17
<i>Rottbeollia conchinchinensis</i>	37
<i>Galinsoga parviflora</i>	16



- **It should be emphasized that yield losses vary from crop to crop, and from region to region for the same crop in response to many factors that include:**
  - **Weed pressure;**
  - **Availability of improved weed control technology;**
  - **Cost of weed control;**
  - **Level of management practiced by farmers.**
- **It is therefore difficult to determine yield losses on a global basis.**
- **But it has been estimated that in developed country 5%-10% - less developed countries and over 25% loss in the least developed countries.**

# Weeds reduce the quality of harvested agricultural products.

- *Bidens pilosa* in cotton is a good example



# Weeds interfere with harvest operations

- They also increase the cost of harvesting.
- E.g. picking maize by hand is hampered if the field is infested with *Rottbeollia conchinchinensis*.
- Heavy infestation interferes with speedy drying of crops and generally slows down harvest operations.
- Additional time may be required to clean the seeds of weeds.

# Weeds may poison some animals



# The cost of weed control is high

- The absence of genetic resistance to weeds among crops as is known to exist for most of the other crop pests is to blame for the high cost of weed control.



- The presence of weeds can impede water flow in irrigation canals.
- Presence of weeds can also increase the cost of irrigation through indirect costs in keeping the canals weed free.



# **INDIRECT LOSSES CAUSED BY WEEDS**

- **Weeds cause many other types of losses in agriculture that cannot be readily related to weeds.**

# **Serve as alternate hosts.**

- **Weeds serve as alternate hosts for many plant insect pests that attack crops.**
- **Weeds also serve as alternate hosts for many bacterial and fungal diseases.**

# Imposes limit on farm size

- Farmers generally cultivate only the area they know from experience they will be able to keep weed-free.
- Inputs are costly and too large an area creates a serious risk for farmers.
- Such a constraint on farm size reduces productivity and the overall food supply that a community can produce.

# Reduce economic value

- The presence of weeds can reduce the economic value of water bodies like lakes by preventing or limiting fishing activities as well as irrigation.



# Fire hazard

- Weeds can become a fire hazard in the dry season.
- Such fires expose the soil to erosion hazards, destroy wildlife and help to impoverish the soil.



- There are also non-agricultural losses caused by weeds.
- Many of these are losses in services or costs associated with the presence of weeds.

- **Weeds affect health of people through skin rashes and allergies.**
- **These translate to loss of labor and increase in medical bills.**



- Weeds impair visibility along roads and rail lines.
- They have to be kept away from power lines at considerable costs to the utility companies.
- Ultimately these costs are passed on to the consumer.



- **Uncontrolled weed growth reduces the value of real estates.**



- In countries that depend heavily on human labor for weeding, children often have to miss school at peak weeding periods.
- This reduces the quality of education that these children get during their formative years.



**BENEFICIAL  
EFFECTS OF  
WEEDS**

- **Although weeds appear to have many undesirable features, there are some that are useful.**
- **Many plant species known as weeds have some positive values.**
- **Some of the beneficial effects of weeds are listed below.**

**1. Weeds provide a vegetative cover that protects the soil surface against erosive action of rain and wind**



**2. Weeds add organic matter to the soil from both the roots and from the above ground parts**



**3. Many plants that are designated weeds are also pot herbs i.e. there are many weeds used directly as food by humans and the range varies from one human culture to another**



## 4. Weeds play an important role as a source of drugs used in public health



## 5. Weeds are a source of pesticides



**6. Weeds have served as an important source of genetic materials for crop improvement through the years**

- ✓ **Crop improvements such as breeding for resistance to many insect pests and plant diseases have been made possible by genetic materials provided by wild species of the crop plants**

# 7. Weeds serve as hosts for beneficial insects and at the same time provide nectar for bees



## 8. Many weed species help to beautify the landscape.

