

Improvement In Food Resources



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Food

**#Important resource
for living things to
sustain life on Earth.**

**Major Nutrients In
plants:**

Protein

Carbohydrates

Fats

Vitamins

Minerals



Types of Crops:

Cereals

Wheat

Rice

Maize

Millet

Sorghum



Pulses

Pea

gram

Black gram

Green gram

Pigeon pea

Lentil

Pulses



Oil Seeds

Soya bean

Ground nut

Sesame

Castor

Mustard

Linseed

Sun Flower



Vegetables, Spices & Fruits

Apple,

Bananas

Orange

Snake beans

Bitter gourd

Egg Plant(Brinjal)

Okhra(Lady fingers)

Cumin

Turmeric

Chilly peppers



Cropping Season's

Kharip Crop Season

- Crop grows in hot & wet climate.
- Seeds are sown in the months of June-july.
- Harvest- In Sept-Oct.
- Ex- Paddy, Soyabean, pigeon pea, cotton, green gram.

Rabi Crop Season

- Crop grows in cold & dry climate.
- Seeds are sown in the months of Oct-Nov.
- Harvest- In March -April.
- Ex- Wheat, gram, peas, mustard, linseed.

Why It is Necessary to Increase Production Efficiency of Crops & Live Stocks?

Rapid Increase in Population.

No scope of Increasing Area under Cultivation.

Past Attempt to Increase Food Production

Green Revolutions
- Increase cereal Production.

White Revolution
- Increase Milk Production.

Note- These Attempts were not sustainable



Important farming Practices For Improving Crop Yield or Production:

- **Choice of seeds for planting - Quality of Seeds.**
- **Nurturing of the crop plants - Using Fertilisers & manure.**
- **Protection of crops- Using Insecticides, Pesticides etc.**

Techniques & Activities for Improving Crop Yield.

- **Crop Variety Management.**
- **Crop Production management.**
- **Crop Protection Management.**

Crop Variety Management:

- **Factors for Crop Variety is done:**
- **Higher Yield or Productivity.**
- **Improved Quality.**
- **Biotic & abiotic resistance.**
- **Change in Maturity duration.**
- **Wider adaptability- Climatic conditions**
- **Desirable argonomic characteristics- (Tallnes,dwarfness, Profuse branching).**

Methods To Improve Crop Variety:

Hybridisation- Change in Characteristics or traits of crops by Intermixing of genes of various crops.

Genetically Modification- Change in Characteristics or traits of crops by Introducing new genes to existing genes of various crops.

Crop Production Management

- Various Agriculture Practices are adopted to achieve high Production.
- **Various Agriculture Practices:**
- **Nutrient Management**
- **Irrigation**
- **Cropping Patterns**

Nutrient Management

Use of Macronutrient & Micronutrient for healthy growth & development.

Macroutrient- Nutrients used by plants in large quantity. Ex- **Nitrogen, Phosphorus, Potassium, Calcium, Magnesium & Sulphur.**

Micronutrient- Nutrients used by plants in small quantity. Ex- **Zinc, Copper, Boron**

Manure

**Composition -
Decomposed
plant, vegetable
& animal excreta.**

Types:

**#Compost &
Vermi-compost.**

Green Manure



Merits of Manure

- **Helps in Enrichment of Soil.**
- **Increase Soil Fertility.**
- **Increase Water Holding Capacity of Soil.**
- **Improve Soil Texture.**
- **Helps in reductions in usage of Fertilisers.**

Fertilizer

**Commercially
Produced Chemicals**

**Ex- Nitrogen,
Phosphorus,
Potassium, Urea etc**

Merits- Healthy
vegetative growth,
high crop production.

Demerits- Excessive
use leads to water
pollution, decrease in
soil fertility.



Organic Farming

No use or very less use of chemical fertilizers, pesticides, etc.

Components of Organic Farming:

Use of Organic Manure, Recycled farm waste, bio -agents, bio pesticides & Adopting healthy Cropping patterns.



Irrigation

Sources of Irrigation:

Wells

Canals

River lift System

Tanks

Rain water harvesting

Watershed
management



Cropping Patterns

Mixed Cropping- Growing two or more crops simultaneously on same piece of land.

Inter Cropping- Cultivating two or more crops on same space in same time in a definite pattern.

Crop Rotation- Growing a series of dissimilar type of crops in the same area in sequential seasons.



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Crop Protection Management

- **Crops needs protection against-**
- **Weeds- Xanthium, Parthenium.**
- **Insect Pests**
- **Pathogens**
- **For Protection : Herbicides, Pesticides, fungicides are used**