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FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES

Scope and importance of fruit

Scope and importance of fruit crops

Fruit growing is one of the important and age old practices, practiced in India since ancient times. Cultivation of fruit crops plays an important role in overall status of the mankind and the nation. The standard of living of the people of a country is depending upon the production and per capita consumption of fruits. Fruit growing have more economic advantages.

I. Economic importance

- High productivity: High yield per unit area: From a unit area of land more yield is realized from fruit crops than any of the agronomic crops. The average yields of Papaya, Banana and Grapes are 10 to 15 times than that of agronomic crops.

- High net profit: Through, the initial cost of establishment of an orchard is high, it is compensated by higher net profit due to higher productivity or high value of produce.

Eg- Wheat/GN/Ragi- 3.0 -4.0 tonnes/ha-25-35,000-00, Grapes/Mango/Banana-20-40t/ha-1.5-2.5 lakh/ha.

- Source of raw material for agro based industries: Fruit farming provides raw materials for various agro based industries- canning and preservation (fresh fruits), coir industries (coconut husk), pharmaceutical industry (Aonla, Papaya, Jamun) Transporting and packaging industries etc.
- Efficient utilization of resources: Growing of fruits being perennial in nature, enables grower to remain engaged throughout the year in farm operations and to utilize fully the resources & assets like machinery, labour, land water for production purpose throughout the year compared to agronomic crops.
- Utilization of waste and barren lands for production: Although, most of the fruits crops require perennial irrigation and good soil for production, there are many fruit crops of hardy in nature, Mango, Ber, Cashew, Custard apple, Aonla, Phalsa, Jamun etc. which are grown on poor shallow, undulated soils considered unsuitable for growing grain/ agronomical crops.
- Foreign exchange: Many fresh fruits, processed products and spices are exported to several countries earning good amount of foreign exchange.

II. Nutritional importance

- Importance of fruits in human diet is well recognized. Man cannot live on cereals alone.

- Fruits and vegetables are essential for balanced diet and good health.

- Nutritionist advocates 60-85g of fruits and 360 gm.

- Vegetables per capita per day in addition to cereals, pulses, egg etc.

- Fruits and vegetables are good sources of vitamins and minerals without which human body cannot maintain proper health and develop resistance to disease they also contain pectin, cellulose, fats, proteins etc.

Fruits as sources of vitamins

Fruits- as sources of vitamins

- Vitamin-A- Mango, Papaya, Jack, Banana, Dates.
- Vitamin-B- Cashew nut, Almond, Banana, Apple, Bale, Litchi, Papaya and Pomegranate.
- Vitamin-C- Aonla, Citrus fruits, Pineapple, Ber, Guava, Strawberry, Tamarind etc.
- Fruits as a source of minerals such as Ca, Fe, P- the fruits are- Almond, Cashew, Guava, Jamun, Fig, Karonda, and Mango.
- Digestive enzymes- Papaya- papaine-9, proteolitic enzyme.

Fruits have medicinal value

The fruits like aonla pomegranate, Kokum, Jamun, Bael, Ber. etc, have great medicinal value,

- Papaya reduces night blindness,
- Citrus juice reduce acute diorrhea.
- Aonla triphala (chawan prash)- digestion.
- Jack fruit (Jackoline)- prevents Aids.

Other importance

Fruit growing in kitchen gardens helps to reduce family budget on purchase of fruits.

- Planting of fruits trees, maintains ecological balance and to increase precipitation of the locality.
- Fruit tree farming also reduces soil erosion, silting and air pollution.
- Generate employment being highly intensive & skillful enterprise generates employment even for trained persons.

Horticultural Zones of India/ Fruit Zones

- Climate is one of the important complex factors which influences the fruit production is defined as the general temperature and atmospheric conditions of an area, over an extended period of time.
- Atmospheric conditions include rainfall, humidity, sunshine, wind and other factors.
- The fruit growing zones are classified based on the climate factors.

Tropical fruit zone

- This class includes fruit crops which are ever green unable to endure cool temperature but can tolerate warm temperature of about 100^0 F.

- The fruit plants of this zone need strong sunshine warm and humid climate and a very mild winter.
- They cannot stand against frost.
- Area under this zone include West Bengal, Parts of Punjab, Haryana, Rajasthan Orissa, Maharastra, AP, Karnataka, TN and Kerala.

Fruits crops: Banana, Pineapple, Sapota, Papaya, Cashew, Pomegranate.

Sub- tropical fruit Zone

- This class includes fruit crops intermediate characters to tropical and temperatures.
- The summer is hot and dry and winter is less mild.
- They may be either deciduous or ever green & are usually able to withstand a low temperature but not the frost.
- Some require chilling for flower bud differentiation the fruits grow mostly in plains, the fruits includes, Citrus, Grapes, Phalsa, fig, guava, pomegranate, Banana etc.
- This fruit zone covers the plains of Punjab, UP, Parts of Bihar, MP, WB, Maharastra, Rajasthan, Karnataka, AP, TN, Kerala, Orissa.. etc.

Temperate fruit zone

- This class of fruits grow successfully in cold regions where temperature falls below freezing point during winter.
- During the cold season, the trees shed their leaves and go into rest period.
- For breaking the rest/dormant period, a definite chilling period is required.
- This chilling temperature helps the plants to put forth new growth, flowering and fruiting with the onset of spring season.
- The regions under this zone are J&K, Kuluvally, HP, Parts, Peaches, Plum, Cherries, Almond, Walnut, Strawberry, Apricot, persimmon, Pecan nut, Kiwi fruit etc.

Arid Zone

- The arid zone has an extreme climatic conditions, high temperature low humidity, rainfall is very low and its distribution is erratic, poor textured soil.
- The area of Rajasthan (62%) and Gujarat (20%) parts of the Punjab, Haryana, Karnataka & Maharashtra the crops are Phalsa, Date palm, Pomegranate, Ber, Custard apple, Tamarind etc.

Semi- arid zone

- This region exhibits low and erratic rainfall, low humidity and high temperature fruits of arid region can be cultivated in this zone also Mango, Sapota, Guava, Jack, Avocado, Ber, Pomegranate and Tamarind etc..

North- Eastern sub-Tropical zone

- All tropical and sub-tropical fruits are grown in this region.
- The parts are Bihar, Assam, Meghalaya, Manipur, Parts of WB, UP etc.

North- Western region

- It is again classified in to 4 temperate- low winter temperature, dry temperature, highly cold condition, Sub-temperate, winter temperature & lesser cold, Low hill valley, low winter temperature & lesser cold. Parts of J&K, HP, hills of UP, South of Punjab, Haryana.

Central tropical fruit zone

This region covers Southern parts of MP, Maharastra Orissa, parts AP, WB, Gujarat etc.

South tropical fruit zone

Karnataka, TN, Kerala & AP

Coastal tropical fruit zone

Kerala, Goa, Diu-Daman, Tripura, Coastal parts of Maharastra, AP, WB, TN, Orissa, Karnataka.

Humid zone fruit crops

- This region is characterized by low temperature and high humidity.
- The crops are Litchi, Strawberry, Avocado, Mangosteen, Passion fruit etc.
- Apart from these fruit zones, India has been classified in to 21 agro ecological regions based on the physiography of soils, bioclimatic types and growing periods.