

## Lecture 6 -Types of Vegetable gardens

Due to rapid development of industry and cities various type of vegetable gardens came into existence & these have scope for providing self sufficiency in food .Types of vegetable gardens developed based on the area occupied and mode of disposal of the product.

- History of vegetable gardens can be traced back with the development of civilization.
- In primitive periods tribes used to grow vegetables for their own consumption mainly for self supporting like in home garden/ kitchen garden
- Commercial horticulture started around 19th century when people began moving from rural areas to the cities consequent of industrial revolution.
- Vegetable farming started to cater the needs of urban population. Such gardens were located away from the town and cities. Better and quicker transport facilities developed, distance from market was no barrier as long as transport facilities were available.
- People selected area, and other conditions suited to cultivate one or two specialized crops. Thus a specialized garden away from market developed called truck garden.
- As civilization progressed, science advanced people discovered the techniques of preservation of fruits& vegetables.
- Selected vegetables suited to processing were grown near factories such gardens were known as vegetable garden for processing.
- With further advancement of science and technology vegetables were started to cultivate out of their normal growing season in protected structures thus gardens for vegetable forcing came up.
- With the advancement of population large quantities of vegetables were cultivated in all above type of garden.
- Thus seeds were in great demand. Therefore vegetable garden have been developed exclusively for the production of vegetable seeds.

### Types of Vegetable gardens:

#### **Nutrition garden /Home garden/Kitchen garden**

Growing of vegetable crops in the residential areas to meet the requirement of the family all the year round. Kitchen garden is the most ancient types of garden. It plays an important part in nutrition of the family. All the work is done by the family members in leisure time.

Location is the fundamental criterion for success of kitchen garden. Area of garden, lay out, crops selected etc. depend on availability and nature of land. It should be near to the home in the back yard. The site should receive sun light for major part of the day. Drain water from kitchen can be profitably utilized in the kitchen garden.

Some crops suggested are as follows:

	Crop	Suitable time for cultivation
1	Amaranthus	Nov-June
2	Cow pea	Mar-Aug
3	Bhindi	June-Aug

4	Chilli	Sep-Mar
5	Tomato	Nov-Feb
6	Colcasia,sweet potato	Jun-Nov
7	Coccinia on fences	Perennial
8	Basella on fences	Perennial
9	Chekurmain as live fence	Perennial
10	Dolichos bean on fences	Oct-Jan
11	Banana,papaya,lime,moringa,curry leaf	Perennial plot

### **Advantages**

- Supply fresh fruits and vegetables high in nutritive value and free from toxic chemicals
- Help to save expenditure on purchase of vegetables
- Induces children on awareness of dignity of labour and helps them connect to agriculture.
- Vegetables harvested from home garden taste better than those purchased from market

### **Sites selection and size**

Usually a kitchen garden is established in backyard of house, near water source in an open area receiving plenty of sunlight.

### **Layout**

Layout of garden and selection of crops suited to each season depends on agro-climatic conditions prevailing in the area.

### **General features / principles to be followed in the layout are follows**

- Perennial vegetables & fruits - drumstick, curry leaf, bilimbi , papaya, banana, lime etc. -one side of the garden (northern side). Shade loving vegetables like water leaf may be planted in perennial plot.
- Compost pit on one corner of kitchen garden for effective utilization of farm / kitchen waste.
- Live fencing -chekkurmanis, ivy gourd, dolichos bean, trailing cowpea and ridge gourd. Fence may be made strong by planting agathi (*Sesbania grandiflora*). An arch at entry point made of red or green Basella.
- Crop rotation- three annual crops can be raised in the same plot. Companion cropping or, inter cropping and mixed cropping etc.
- Due to intensive and continuous cropping, fertility and texture of soil should be maintained.
- Utilize ridges, which separate individual plots for growing root and tuber crops.
- Follow clean cultivation practices.
- Prefer long duration and steady yielding varieties than high yielding ones.
- Provide walking path -planting red and green amaranth or indeterminate tomato on either side.

## **Market Garden**

- People living in the cities neither had time nor space to devote gardening hence a demand for vegetables was developed in and around the cities.
- Market garden supplies vegetables to near by city markets.
- It is the most intensive type of cultivation of vegetables where most skilful methods for vegetable production are followed.
- Mostly high value crops, early varieties and varieties or crops which do not stand long distance transport (amaranth, yard long bean, bitter gourd etc) are cultivated.
- Inter cropping and succession cropping is done.
  
- Market gardens are located 10-20 km within the vicinity of the city.
- Land is high value, holding size small.
- Choice of crop depends on local climatic condition, cost of labour, market demand etc.
- Site is selected based on topography, nearness to market, availability of labour, irrigation facilities, transport facility etc.
- Due to increasing cost and pressure on land near big cities and fast developing transportation facilities, market vegetable gardens in big cities are on verge of extinction.

## **Truck Garden**

The word 'Truck' came from French word 'troquer' which means barter.

- It is extensive type of cultivation - specialises in production one or two crops in larger quantities for distant markets.
- Middle men are involved in marketing hence profit to farmers is less.
- The location of this type of garden is determined by the soil and climatic factors suitable for raising those particular crops. Cultivation is more extensive
- Cost of land ,labour is cheap, size of holding large, mechanized farming, cost of production low.
- Cauliflower, French beans produced in Ranchi available in Calcutta.
- Punjab potatoes available in the extreme south of the country.
- Nasik onion available in all parts of country.
- Surplus produce in one area disposed off in the deficit areas.
- Vegetables which can sustain long distance transport like potato, onion, pumpkin, cauliflower are well suited.

## **Vegetable garden for processing**

- Vegetables are produced with the sole objective of supplying them to the processing factory.
- Vegetables like tomato, peas, potato, sprouting broccoli, spinach, lima bean, gherkin and onion are utilized by processing industries for canning, dehydration, freezing, pickling and for making other processed products.

- For regular supply of specialized varieties and crops to processing industries, vegetable gardens are established near processing factories and connected by rail or road.
- In India, this type of gardens is found in Punjab and a few other states for supplying tomato for processing industries.
- Varieties meeting processing requirements only are cultivated here
- Supply of inputs and buy back of produce are based on agreement between factory owners and farmers.
- Limited number of vegetables suited to processing are grown continuously.

### **River bed cultivation/ Diara cultivation**

- Growing of cucurbits in river beds or river basins constitute a distinct type of farming. These areas are called “diara lands” in UP and Bihar
- The river beds of Yamuna, Ganga, Gomati, & Sarayu, cucurbits like bottle gourd, ash gourd, parwal, pumpkin and melons are commonly grown.
- In Kerala, fertile basins of rivers Pamba and Manimala are utilized for growing crops like yard long bean, bitter gourd and snake gourd. Cucurbits like ash gourd, pumpkin, bottle gourd and water melon are cultivated during summer season in river beds of Bharathapuzha in Kerala. It is type of vegetable forcing during winter (Nov-Dec).
- River beds are formed by alluvion action of river due to inundation caused by swollen river during SW monsoon.
- Fresh clay and clay get deposited every year, makes the river basins fertile and suitable for growing vegetables.
- River bed system developed through the native ingenuity of farmers.
- Home saved seeds are used for cultivation.
- Since a crop is taken once a year incidence of pest and diseases are low.

### **Garden for vegetable forcing**

- Growing crops out of their normal growing season.
- This type of garden are common in western countries.
- environmental conditions not always favourable for growing crops in open throughout the year.
- Such gardens are located preferably in cities.
- Forcing structures are constructed in places where electricity and water available in plenty.
- Inside the forcing structures congenial conditions ideal for growth of crops is provided artificially, temperature and humidity is controlled.
- Fertigation is practised inside forcing structures .
- Tomato, cucumber, peas, asparagus, lettuce, beet root, radish, cauliflower etc. are grown.
- Most intensive type of cultivation where forcing structures are never allowed to remain idle.
- High cost of cultivation and high return.

- Various structures viz., glass house, poly house , rainshelters, shade net, cold frames, hot beds etc are required for forcing vegetables.
- It requires special technical knowledge and artificial environment control.
- This type of cultivation slowly picking up in India.

### **Vegetable garden for seed production**

- Good seed is the base of any successful farming industry
- Vegetable seed production is highly specialised and technical branch .Thorough knowledge on crop, growth habit, mode of pollination, isolation distance ,seed processing are important
- With advancement of technologies, especially development of improved varieties and hybrids, seed production has become a specialized job requiring great expertise.
- Each crop / variety is grown in specified isolation distance meeting all the field and crop standards.
- Timely inspection and rouging are also done to maintain seed purity.
- Crops which are suitable to particular agro climatic conditions are grown.
- Labour cost is more as the crops is there in the field till seed matures.
- Seed extraction, processing, drying, storage and packaging also requires additional labour.
- The net return from vegetable growing for seed production is more.
- This system of vegetable growing has bright future in India.

### **Terrace garden**

- Growing vegetables, fruits or flowers on the terrace or balconies of buildings.
- Due to constraints of space,
- Containers of all sizes, shapes, whether of plastic, ceramic, metal or mud can be used.
- Any used container can be recycled and used to grow plants.

### **Floating garden**

- In Dal lakes of Kashmir, vegetables are cultivated in floating bases made up of roots of Typha grass growing wild in the lakes.
- The base is first prepared by weaving of roots of Typha grass. Then fertile soil rich in humus is placed on the grass base and seeds are sown.
- All the intercultural operations including watering are done with the help of boats. The floating garden can be dragged to different places for specific purposes.
- Most of the summer vegetables supplied to Srinagar are from these floating gardens.

