

## Vegetable Type

### 1. Indigenous vegetables

These are vegetables that are associated with the hot, humid tropical Africa.

They are adapted to the hot temperatures and heavy rainfalls of the tropics.

In tropical Africa, where starchy root crops are the staple food, they are generally consumed as supplements to the starchy staple foods.

They provide a cheap source of protein, vitamin and minerals.

The indigenous vegetables are usually cultivated under mixed cropping systems as minor crops.

They are more prominent in compound/backyard farms.

They are usually grown with household organic refuse or farm yard manure. They are rarely fertilized with inorganic fertilizers

Women are key players in production, processing and marketing of indigenous vegetables

Cultivation require low capital/cash requirement and relatively small land area  
Also, a tangible profit can be realized over time.

### 2. Exotic-type vegetables

They originate in areas with cool season climate/temperate region.

In Nigeria, they are grown in high altitude areas such as Sahel and tropical uplands of Jos and Adamawa state.

They are very popular especially in the urban areas

Vegetables in this groups are: Beet, lettuce, cabbage, radish, carrot, irish potato etc.

**Production of exotic vegetables in the mixed system is often impossible because of the following reasons:**

There is poor demand for exotic vegetables

Cultivation of exotic demands special methods which are difficult and expensive

Exotic vegetable has poor seed formation and storage under warm – season tropical conditions.

Exotic vegetables have peculiar taste, texture and special cooking requirements which are not acceptable to most homes in tropical Africa..

## **IMPORTANCE OF VEGETABLES IN HUMAN DIET**

Vegetables supply most of the nutrients that are deficient in other food materials. This includes supply of minerals, especially calcium and iron.

Vegetables are acid neutralizers e.g. okra, *Corchorus* spp neutralizes the acid produced from the some fruits.

Vegetables prevent constipation and promote digestion as a result of fibres/roughages obtained from okra, cucumber, amaranthus, lettuce and cabbage.

Vegetables are rich sources of vitamins A, B, and C which helps to lower susceptibility to infection. e.g.: Carrots, sweet corn, amaranthus and celosia provide Vitamin A; Bitter leaf, water leaf, *solanum* and celosia provide Vitamin B; Tomatoes, carrots, lettuce, cabbage and amaranthus provide Vitamin C.

Also, some vegetables are rich sources of carbohydrate e.g. potatoes, sweet corn, carrot etc. Green beans and peas are cheap sources of protein. Vernonia (Bitter leaf), Amaranthus and *Telfeira* provide some amount of protein in human diet.

Vegetables are generally needed to have balanced diets and overcome nutritional deficiencies. Vegetables make our staple food more palatable and enhance their intake.

The practice of cultivating vegetables and spices for food, composite seasoning and medicine is referred to as Olericulture. Olericulture is one of the four general and sub-categories of horticulture. Others are Pomology, Floriculture, and Landscape gardening/

## **Principles and Practice of Vegetable productions**

There are some principles required in the production of vegetable crops which are very important and well known to the grower. These principles are:

1. Production of vegetables does not involve a long- time investment as does in the orchard of citrus, mango, or cashew.
2. Vegetable growers/farmers are not bound to produce the same crop each year like his counterparts, who grow fruit crops.

3. Vegetable growing lacks the stability which is methodically developed over a period of years like an orchard thus, getting into vegetable production is a fast process and getting out may even be faster.
4. Vegetables can be grown by people with limited experience. Only skillful farmers sustain their vegetable production
5. The land for production of vegetable crops is flexible and adjustable. It is much easier for vegetable growers/farmers to change production from one crop to another than for fruit crop grower.
6. Cooperative efforts and organizations are somewhat more difficult with vegetable crop producers than fruit growers. Vegetable/grower/farmers have no long period for making plans. Vegetable production is seasonal.
7. Vegetable production requires more intensive production management per unit area and time.

## **Practices of Vegetable crops Production**

The several practices of productions have developed as a result of rapid urbanization and socio-economic and political situations. The practices are highlighted below:

- 1. Home Gardening:** the principal source of fresh local vegetable supplies for most homes. It supplies an important part of the family needs and additional tax-free income.
- 2. Market Gardening:** It takes care of both family needs and market supplies; production goes beyond family taste or needs. It depends on urban market demands.
- 3. Commercial Production:** The principal source of vegetables for big market. It is more extensive and specialized than market gardening. The area of production is determined by climatic and edaphic factors.
- 4. Production for Processing:** The principal source of fresh vegetable for processing industries .The scale of operation is similar to that of commercial production.
- 5. Vegetable Forcing:** The practices of producing vegetables out of their normal production season. It may be accomplished by modifying the growing environment such as heat provision or protection from cold, etc.
- 6. Controlled Environment Agriculture:** The practice of modifying the natural environment for optimum plant growth and production of growth factors such as light, air, temperature, water, relative humidity, etc.
- 7. Vegetable Seed Production:** This is a specialized agricultural industry for seed production and processing. The practice only involves seed production and not fresh vegetables for consumption.

## **Factors Affecting Vegetable Production**

The importance of environment in crop production cannot be over-emphasized. It is a major determinant of crop production; it plays an indispensable role in plant growth and development, determining the extent to which crop plants attain their potential values. It also provides the scientific principles on which production technology is based.

The environment of crop production can be classified into two dimensions, operating separately or dependently:

- i. **Human Environment**
- ii. **Material Environment**

**Human Environment:** Is made up of Economic, Institutional and Social factors.

**i. Economic Element:** This includes economic policy, which determines quantities and distributions, as well as absolute and relative prices of inputs and outputs. Policy also influences the availability and distribution of physical infrastructure such as transportation, water supply, health services and facilities for marketing, processing and storage.

**ii Institutional Element:** These are laws of the land, credit and marketing conditions, contractual agreement , extension services, property right to land and water, as well as distribution and quality of goods, grading and taxation.

**iii Social Element:** These include culture and customs within a community. They determine access that farmers have to capital, source of credit or money and other production inputs, and the distribution of labour

## **Material Environment**

This is also called technical environment which consists of physical elements of climate (e.g rainfall, relative humidity, temperature and light), topography and soil and the biological elements (vegetation, plants, weeds, insect pests and diseases).

Some of the challenges of material environment are:

1. It is difficult or impossible to manipulate, for example many tropical soils are highly weathered and generally infertile.
2. The rainfall is unpredictable in the time of onset, duration, distribution, reliability and cessation.
3. The temperature and light intensity are generally high and may permit pest development and crop growth throughout the year.
4. There is no fallow or winter period between the end of one cropping season and the beginning of another to help reduce pest infestation. The fallow period has been shortened in the tropics as a result of rapid population growth.

**Biotic factors:** The elements of biotic factors are important components of tropical farming systems. They occupy several niches and compete with crop plants for space, water, light and nutrients. They may be beneficial, neutral or harmful to plant growth. The biotic factors comprise of micro flora, micro fauna, macro flora and macro fauna. Micro-flora include, bacteria, fungi, actinomycetes, and algae; microfauna include protozoa and nematodes. Micro-fauna include burrowing animals such as moles, rats and rabbit, earthworms, arthropods such as mites, millipedes, insects, ants and termites; and gastropods such as slugs and snails. Micro-flora include roots of herbs, shrubs and big trees.

**Light Attributes:** Light has three main attributes such as **quality**, which determines tissue differentiation, physiological processes and germination; **Intensity** which determines rate of dry matter accumulation; and **Duration** or **Photoperiod** which affects behaviour and physiological functions of living organism (plants and animals)