

## **SUBJECT: AGRICULTURAL SCIENCE**

TOPIC: PASTURES AND FORAGE CROPS

WEEK: 8

CLASS: SS1

TERM: THIRD TERM

Pasture can be defined as an area of land cultivated with forage crops (grasses and legumes) that are grazed by livestock e.g. cattle, sheep and goat. While forages crops can also be defined as the plants cultivated purposely because of their vegetative parts that are used for feeding livestock either in fresh form or preserved form.

### **USES OF FORAGE CROPS**

The following are the uses of forage crops:

1. As livestock feeds
2. As cover crops
3. Moisture conservation
4. Erosion prevention
5. As green manure
6. For roofing farmsteads
7. Bedding materials

#### **(1)AS LIVESTOCK FEEDS**

Forage crops are used for the feeding of livestock like cattle, sheep, and goat. Forage crops are used for preparation of hay, silage etc. for feeding livestock.

#### **(2) AS COVER CROPS**

Leguminous crops are cover crops which help to control weeds and add nutrients to the soil.

#### **(3) MOISTURE CONSERVATION**

Leguminous plant helps to retain the soil water contents by preventing evaporation.

#### **(4)EROSION PREVENTION**

Erosion is the the washing away of topsoil. Leguminous plants prevent erosion through water and wind.

#### **(5) AS GREEN MANURE**

Young forage crops can be ploughed into the soil as green manure.

#### (6) FOR ROOFING MATERIALS

Elephant grass and guinea grass are the most common types of forage crops that are usually used as roofing materials for farmsteads due to their long stems and plenty leaves.

#### (7) FOR BEDDING MATERIALS

Forage crops serve as bedding materials for animals.

#### TYPES OF PASTURE

There are two main types of pasture namely:

Natural pasture and Artificial pasture

#### NATURAL PASTURE

This type of pasture consists of grasses and legumes that grow naturally on their own and are fed on by farm animals. Examples of such pastures are in the Sahel savannah and some other parts of Nigeria.

#### CHARACTERISTICS OF NATURAL PASTURES

1. Natural pasture consists of wide varieties of forage crops.
2. Productivity is usually low because there is no maintenance.
3. Natural pastures are seasonal.
4. It has good regenerative ability.

#### ARTIFICIAL PASTURE

This type of pasture consists of grasses and legumes (forage crops) that are deliberately planted and monitored by man, mainly for feeding of livestock.

#### CHARACTERISTICS OF ARTIFICIAL PASTURES

1. Artificial pasture consists of specific varieties of forage crops.
2. It consists of high qualities of forage crops.
3. Production is usually under proper monitoring.
4. Pasture is not seasonal because irrigation can be used to supply water needed for the crop.
5. It has high regenerative ability.

#### COMMON FORAGE GRASSES IN NIGERIA

NAME	BOTANICAL NAME
1. Elephant grass	<i>Pennisetum purpureum</i>
2. Guinea grass	<i>Panicum maximum</i>
3. Spear grass	<i>Imperata cylindrica</i>

4. Carpet grass	<i>Axonopus compressus</i>
5. Stubborn grass	<i>Eleusine indica</i>
6. Bahama grass	<i>Cynodon dactylon</i>
7. Northern gamba grass	<i>Andropogon gayanus</i>
8. Southern gamba grass	<i>Andropogon tectorum</i>

#### COMMON FORAGE LEGUMES IN NIGERIA

NAME	BOTANICAL NAME
1. Centro	<i>Centrosema pubescens</i>
2. stylo	<i>Stylosanthes gracilis</i>
3. calapo	<i>Calopogonium muconoides</i>
4. mucuna	<i>Mucuna utilis</i>
5. tropical kudzu	<i>Pueraria phaseoloides</i>

#### FACTORS AFFECTING DISTRIBUTION OF PASTURE

1. Climatic factor
2. Edaphic factor
3. Biotic factor

#### FACTOR AFFECTING PRODUCTIVITY OF PASTURE

The following factor affects productivity of pasture namely:

1. Resistance to drought
2. Aggressiveness of pasture
3. Persistence
4. Seed viability
5. Pests and diseases
6. Good management
7. Accurate stocking
8. Resistance to trampling

##### (1) RESISTANCE TO DROUGHT

Pastures that have high resistance to drought maintain high productivity and make forage available throughout the year.

##### (2) AGGRESSIVENESS OF PASTURE

This is the ability of pasture to compete with other weeds for sunlight, space and water.

##### (3) PERSISTENCE

This is the tendency and ability of pasture to grow, survive and spread by vegetative means.

#### (4) SEED VIABILITY

Pasture seeds should be highly viable and should be able to germinate at anytime and anywhere.

#### (5) PESTS AND DISEASES

Pests and diseases reduce the viability, nutrients, quality and survival of the pastures. It should be tolerant to pests and diseases.

#### ESTABLISHMENT OF PASTURE

To establish pasture, certain factors must be put into consideration. Among these factors are:

1. Adaptation of species: this is the ability of forage crops to survive well or adapt to a new environment.
2. Palatability: the forage crops must be nutritious and tasty to the livestock.
3. Compatibility: the grasses and legumes mixture must be compatible and must be able to grow together.
4. Regrowth potential: this is the ability of the species to regrow and able to withstand trampling and overgrazing.
5. Time of maturity: the forage crops must be able to grow within a very short period of time.
6. Life cycle of species: life cycle of species: annual grasses should be mixed with annual legumes and perennial grasses should be mixes with perennial legumes to ensure continuity.

#### SEQUENTIAL STEPS TO BE FOLLOWED IN THE ESTABLISHMENT OF PASTURE

1. Site selection: suitable site and well drained loamy soil.
2. Clearing and stumping with cutlass and hoes.
3. Removal of debris.
4. Cultivation of site: harrowing, ploughing and ridging should be adopted.
5. Planting of pasture should be either by seed or vegetative.
6. Irrigation is highly essential where there is insufficient moisture content.
7. Weeding should be carried out at regular interval especially at the early stage.
8. Fertilizer application should be at appropriate time and broadcasting method should be adopted.
9. Paddockging: pasture is divided into convenient units for good grazing management.

#### MANAGEMENT PRACTICES OF PASTURE

The following are the common management practices:

1. Burning
2. Fencing
3. Fertilizer application
4. Weed control

5. Pest and diseases control
6. Irrigation
7. Shading
8. Stocking rate.