

SUBJECT: Agricultural Science

CLASS: SS2

WEEK: 2 AND 3

TOPIC: Pasture and Forage Crops

TERM: 2ND

PASTURE AND FORAGE CROPS

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.

Forage crops can also be defined as the plant cultivated purposely because of their vegetative parts that are used for feeding livestock either in fresh form or preserved form.

Uses of forage

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 the 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 washing away of top soil. Leguminous plants prevent erosion through water and wind.

(5) AS GREEN MANURE

Young forage crop 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 farmstead 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:

1. Natural Pasture
2. Artificial Pasture

NATURAL PASTURE

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

CHARACTERISTICS OF NATURAL PASTURE

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

ARTIFICIAL PASTURE

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

CHARACTERISTICS OF ARTIFICIAL PASTURE

1. Artificial Pasture consist specific varieties of forage crops.
2. It consist 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	-	Pennisetum purpureum
2.	Guinea grass	-	Panicum maximum
3.	Spear grass	-	Imperata cylindrical
4.	Carpet grass	-	Axonopus compressus
5.	Surbborn grass	-	Eleusine indica
6.	Bahama grass	-	Cynodon dactylon
7.	Northern gamba grass	-	Andropogon gayanus
8.	Southern gamba grass	-	Andropogon tectorum

COMMON FORAGE LEGUMES IN NIGERIA

	NAME		BOTANICAL NAME
1.	Centro	-	Centrosema pubescens
2.	Stylo	-	Stylosanthes gracilis
3.	Calapo	-	Calapogonium muconoides
4.	Mucuna	-	Mucuna utilis
5.	Tropical Kudzu	-	pueraria phaseoloides

FACTORS AFFECTING DISTRIBUTION OF PASTURE

1. Climate factor
2. Edaphic factor
3. Biotic factor

FACTORS AFFECTING PRODUCTIVITY OF PASTURE

The following factors affect productivity of pasture, namely:

1. Resistance to drought
2. Aggressiveness of pasture
3. Persistence
4. Seed viability
5. Pests and diseases

(1) RESISTANCE TO DROUGHT

Pasture that have high resistance to drought maintains high productivity and makes forage available throughout the year.

(2) AGGRESSIVENESS OF PASTURE

This is the ability of pasture to compete with other weeds for sunlight, space air 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, nutrient, quality and survival of the pasture. 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 be 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: Annual grasses should be mixed with annual legumes and perennial grasses should be mixed with perennial legumes to ensure continuity.

Sequential steps to be followed in the establishment of pasture

STEPS:

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 sites: Harrowing, ploughing and ridging should be adopted.
5. Planting of pasture should be either seed or vegetatively.
6. Irrigation is highly essential where there is insufficient moisture content.
7. Weeding should be carried out at regular interval, especially at early stage.
8. Fertilizer application should be at appropriate time and broadcasting methods 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 disease control
6. Irrigation
7. Shading
8. Stocking rate

ASSIGNMENT

1. a. What are the economic importance of forage crops?
b. list five common grasses and five common legumes.
2. a. Mention five factors affecting productivity of forage crops.
b. what are the factors to be considered in the establishment of pasture?
3. Briefly explain those factors mentioned above.