

# Livestock Production Management

## AGRONOMICAL PRACTICES FOR FODDER PRODUCTION

# FODDER PRODUCTION

## ● Introduction

- Fodder crops are cultivated plant species that are utilized as livestock feed.
- Fodder refers mostly the crops which are harvested and used for stall feeding.
- On the other hand forages refer to the vegetative matter, fresh or preserved, utilized as feed for animals and include all fodder such as grasses, legumes, crucifers and other crops cultivated.

# CHOICE OF FODDER

- It is highly essential to select the right choice of crops to cultivate.
- Choice of fodder depends on the soil type, soil fertility status, agro climatic condition, water availability , kind and number of livestock reared etc.

# CLASSIFICATION OF FODDER

- There are different types of classification available. However, the following two classification are more easy to understand and adopt.

## 1.) Classification of fodder on the basis of season of cultivation

- Kharif Fodder ( June – September):- Ex. Cowpea, Bajra, Sorghum, Maize.
- Rabi Fodder (October- Dec/Jan):- Ex. Berseem, Leucern, Oats, Barley.
- Summer Fodder (April- June):- Ex. Cowpea, Maize, Sorghum, Bajra.

# CONTI.....

## 2.) Classification based on plant family and duration of the crop

→ Legumes (Annual and Perennial) : Ex.  
Berseem, Cowpea, Lucerne.

→ Non- legumes (Annual and Perennial): Ex.  
Hybrid Napier, Guinea grass, Fodder maize,  
Fodder Sorghum

# ***Agronomical practices for cultivation of forage crop***

***1. Time and method of sowing***

***2. Manuring, Irrigation and Harvesting***

***3. Yield and nutritive value***

***4. Crop rotation***

***5. Varieties***

# LEGUMES

- Legumes are the most important component of animal fodder in view of their high content of crude protein (20-25%) compared to fodder cereals (8-12%) and fodder grasses (5-10%).
- Legumes improve the quality of fodder when mixed with non- leguminous fodder.
- Legumes are fed in small quantities (1-2% of body weight).
- If legumes are feed in bulk it may create problems like bloat in animals.

# NON -LEGUMES

- Non legume refers to all grasses belonging to the family of plants, gramineae comprising 450 genera and more than 6000 species distributed throughout the world.
- Non leguminous fodder ( cereal and grasses) provide sufficient amount of energy ( carbohydrate) for livestock.
- Green fodders of non- legumes are fed in bulk quantities (about 10% of body weight the animal).



# *BERSEEM*(*Trifolium alexandrinum*) Or Egyptian Clover

- It is one of the important highly esteemed leguminous fodder crop known as 'king of fodders'
- Although ,it is migrated from Egypt for the last 60 year but is now well established in India as a prominent fodder crop in irrigated area. It possesses many



# CONTI.....

- 1.It can support growth and milk production on ad lib feeding balanced by straws.
- 2.10-15 kg of fodder along with straw constitute a maintenance ration.
- 3.It gives 5 to 6 cuttings with high yield of fodder.
- 4.The berseem can be grown on many kinds of soils but does not grow on acidic lands.

## ◎ CONTI.....

### ◎ *Time and method of sowing:-*

- ◎ It is sown in plains from middle of September to the end of October and in hills from middle of August to first week of September.
- ◎ It is sown by broadcasting method followed by irrigation.

# CONTI.....

- ***Ploughing:-***

- After harvesting of kharif crop, the field is ploughed once with mould board or disc plough followed by 2-3 harrowings and finally by ploughng.

# CONTI.....

- ***Seed Rate:-***
- 20-25 kg/ha of land. If crop is cultivated for the first time, inoculation with bacterial culture is necessary.
- The seed are inoculated just before sowing.
- The seed rate of giant berseen is 30-35 kg/ha which requiries less irrigation.

# CONTI.....

- ① ***Manuring and irrigation:-***
- ① Like other legumes, it requires phosphatic manures.
- ① Manuring with kisan khad or ammonium sulphate 150 kg/ha of land along with 500 kg of super phosphate at the time of sowing is necessary for good yield.
- ① It requires frequent irrigation after every 10-12 days interval in early winter and 15 days during winter.

# CONTI.....

- ***Yield and nutritive value:-***
- The crop is ready within 55-60 days after sowing for first cutting followed by subsequent cutting at 30 days intervals.
- Up to 5-6 cutting are obtained in middle of may with total yield of 500-600 Q/ha.
- The crude protein content of the berseem is 16-21% on dry matter basis.

# Leucern

- Medicago sativa (kudirai masal).
- It is called as “queen of forage crops”.
- Can be grown for 2-3 years in the same field.
- Harvest can be taken once in 30 days.





## CONTI.....

- Rich in protein (20%). So seedling limited to 2-3 kg/day legume has to be cut and fed at the time of flowering when it will have high protein.
- It is suitable for hay making .
- Rich in calcium, phosphorus and high carotene and vitamin.
- Lucerne meal used in cattle and poultry feed.

# FODDER COWPEA

Highly palatable, nutrition, good for hay making, can be grown in dry lands mixed with sorghum, cumbu or maize.



# ***SORGHUM***

(Andropogan sorghum)/Chari

- ⦿ It is a summer forage and is one of the best drought and heat resistant kharif crop grown for silage and hay making.
- ⦿ It can be grown both under irrigated and rainfed conditions.
- ⦿ It can be grown in any type of soil but yield is more in loam soils.



# CONTI.....

- ***Time and method of sowing:-***
- Sowing is done between April and August for fodder production.
- Sorghum seeds are broadcasted which are then mixed with the soil by various measures such as by harrow or by cultivator and finally planking is done.

## ● ***Ploughing:-***

- The land is generally ploughed once with mould board followed by two ploughing with desi plough or harrowings.

## ● ***Seed Rate:-***

- Sorghum seeds are broadcast 55-60kg/ha of land production.

⦿ ***Yield and nutritive value:-***

- ⦿ Fodder is harvested within 70-90 days and the average yield 250-450 quintals per hectare.
- ⦿ Some varieties yield about 500 quintals also.
- ⦿ It is a non-maintenance type of roughage containing about 4-5 percent of protein.

- ◎ ***Some varieties:-***
- ◎ Ex – S.almun and Sirsa 20 contain 8-20% of protein, thus act as a maintenance ration.

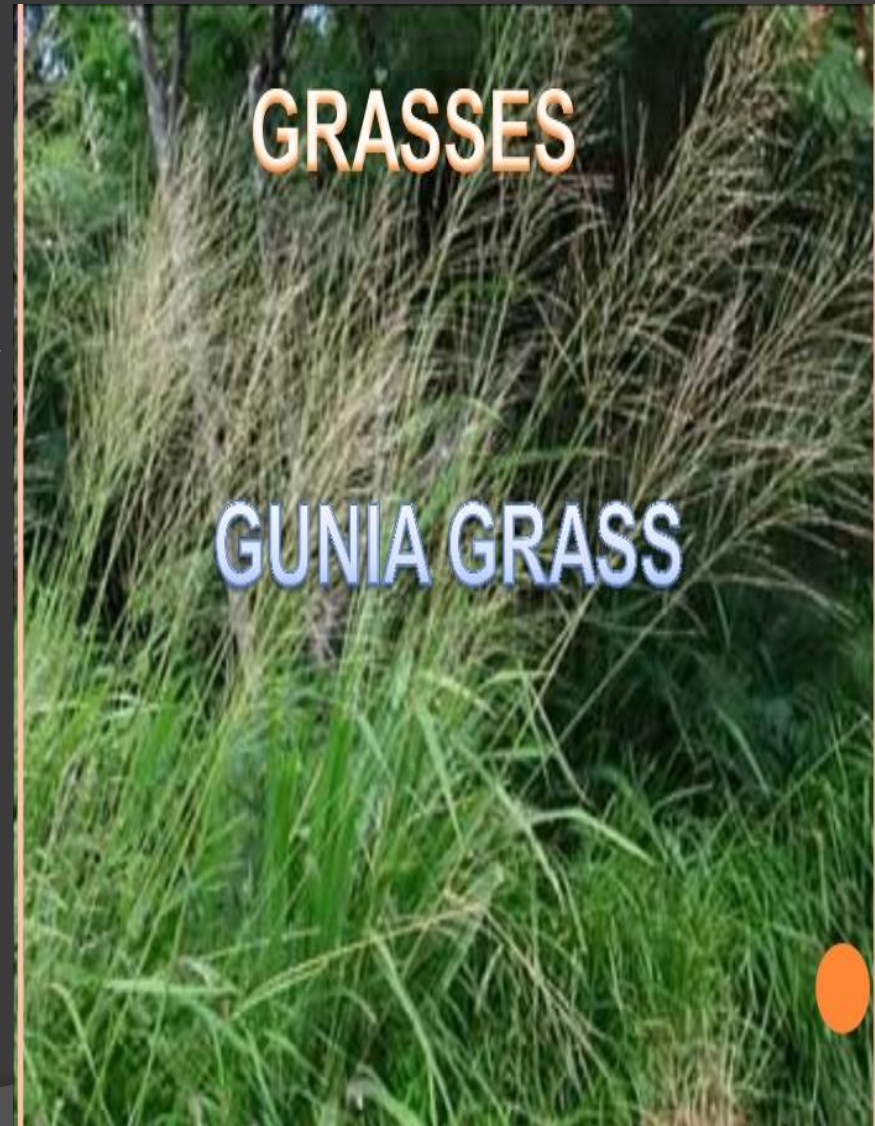
### ***Crop rotations:-***

- ◎ (1) Cow pea-sorghum-Wheat(one year)
- ◎ (2) Cow pea-sorghum-Barley(one year)
- ◎ (3) Cow pea-sorghum-Oat(one year)



# GUNIA GRASS (*Panicum maxicum*)

- Place of origin: Africa
- Distribution:
  - Westindies, Jamaica, India (Tamil nadu, Karnataka, Andhra pradesh, Maharashtra, Gujarat).
  - Most popular fodder grass under irrigated condition. It appear to have been cultivated in West Indies and Jamaica before its introduction to India.





## *CONTI.....*

- Highly palatable grass, with high dry matter content (15%-20%), free from all toxic principles.
- Protein 6-8% with well balanced calcium and phosphorus
- Good soil binder.
- Harvest can be done once 30-40 days.
- Can be grazed, cut and fed used hay silage.
- Making. Ideal for sewage forming.

# ***NAPIER GRASS ( Pennisetum purpureum )***

- It is also called Elephant grass
- It grows up to four meters with thick growth which gives its name “elephant grass”.
- Perennial grass, protein 6-8%, good for hay making, comes up well sewage water.



Thank  
you

