



# Feed / Fodder resources and their utilization

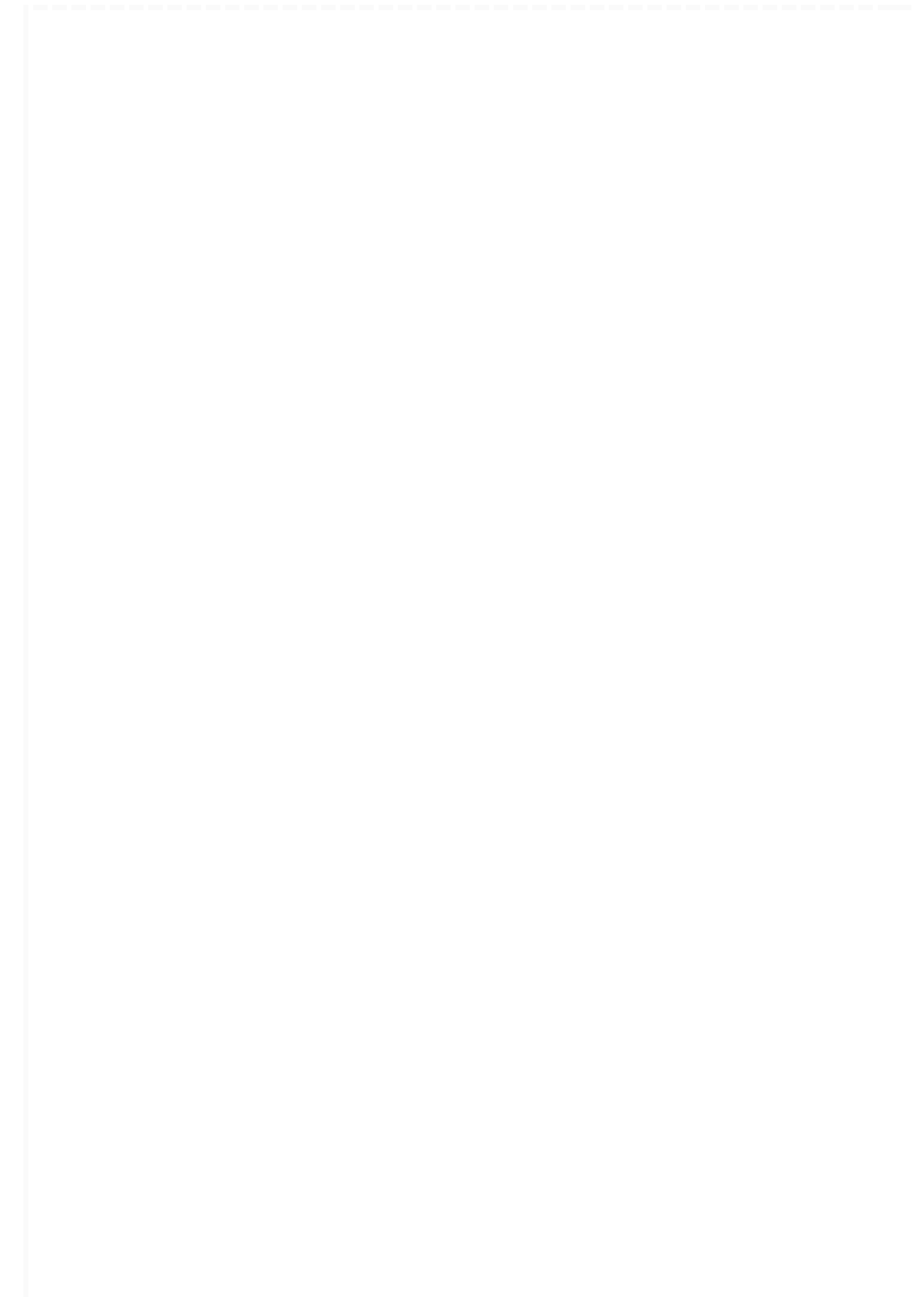
**Dr.L.Radhakrishnan, M.V.Sc., Ph.D.,**

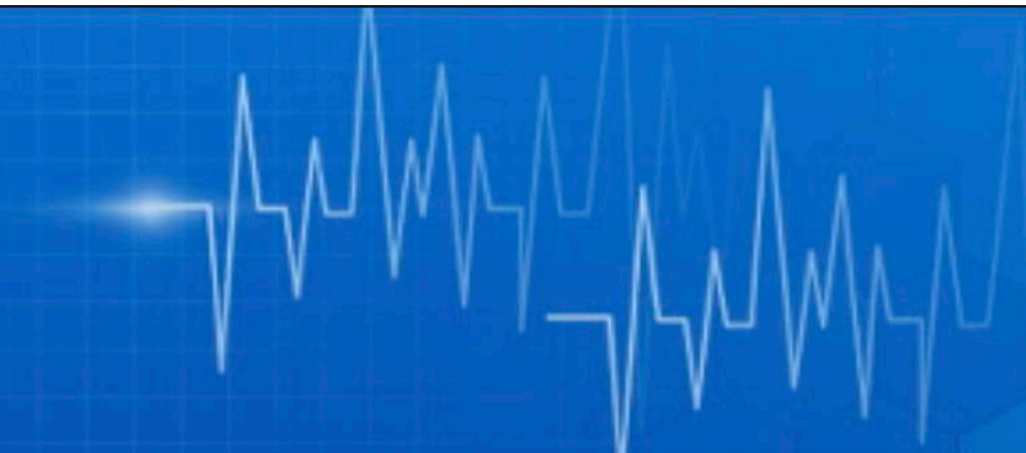
Professor and Head  
Central Feed Technology Unit,  
Tamil Nadu Veterinary and Animal Sciences University  
Kattupakkam - 603 203.



# Feed / Fodder resources and their utilization

**Dr.L.Radhakrishnan, M.V.Sc., Ph.D.,**  
Professor and Head  
Central Feed Technology Unit,  
Tamil Nadu Veterinary and Animal Sciences University  
Kattupakkam - 603 203.





# 1. Feed and fodder





## Definitions

### ▶ **Feed or Feed stuff**

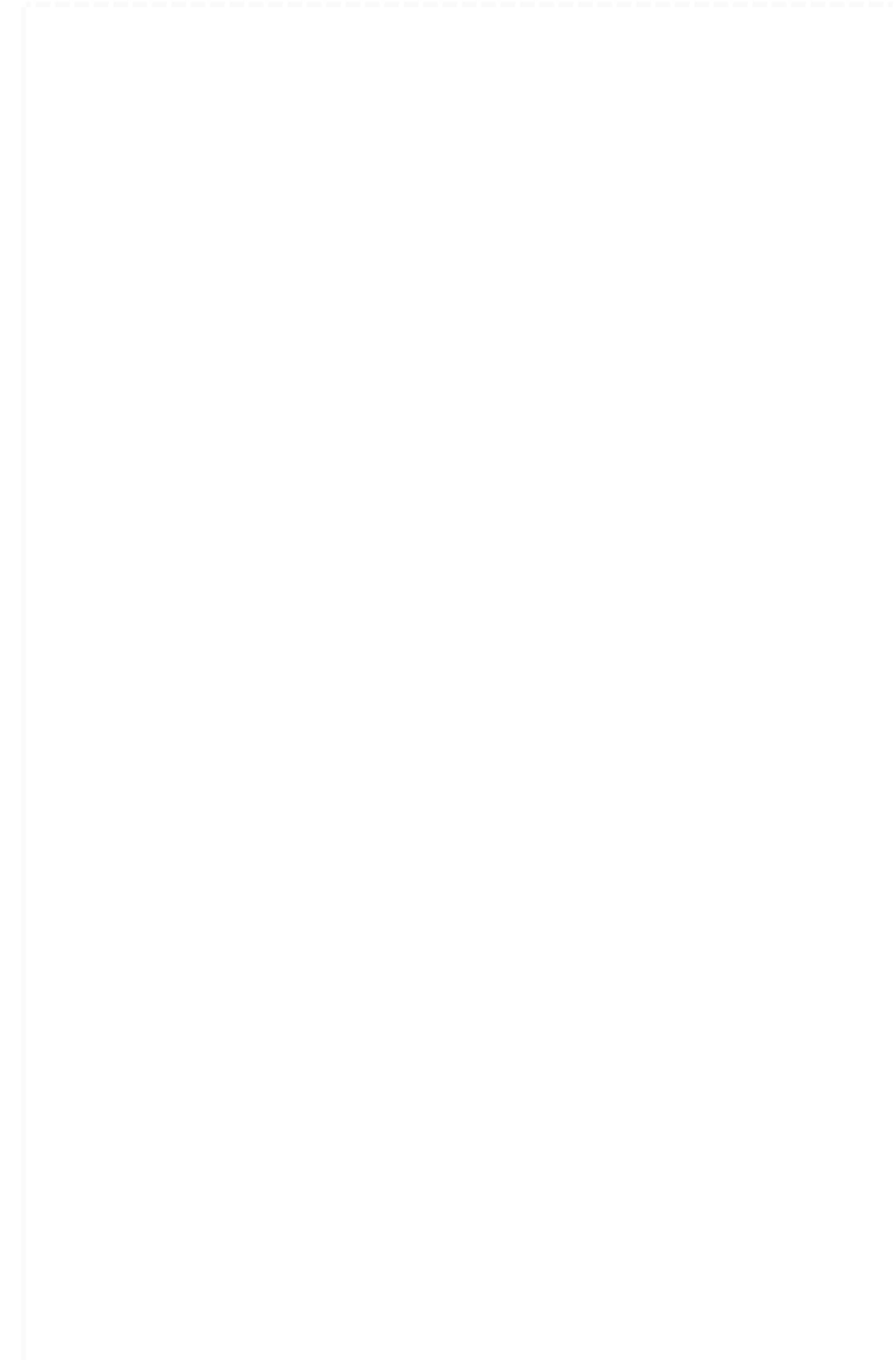
Feed of animals comprising any naturally occurring ingredient or material fed to animals for the purpose of sustaining growth and development.

### ▶ **Ration**

It is a fixed amount of feed for one animal, fed for a definite period, usually for 24 hours

### ▶ **Balanced ration**

Balanced ration is one that furnishes nutrients in such proportions and amounts that it will properly nourish a given animal for 24 hours (Morrison, 1956). In addition, the required nutrients must be contained in the amount of DM the animal is able to consume in the 24 hr period.





## Importance of balanced ration

- ▶ Increase in **milk production** and thereby net daily income
- ▶ Increase **milk production efficiency** – more milk from the same amount of feed
- ▶ Increase in **rumen microbial protein synthesis** – resulting in better functioning of the rumen thus saving feed protein which is most expensive component of the diet
- ▶ Increase in **immune status of the animal**
- ▶ **Decrease** in **enteric methane emission**





## Desirable characteristics of ration

- ▶ Ration must be palatable (Avoid foul smelling, musty, mouldy material)
- ▶ Ration should have highly digestible feed ingredients
- ▶ Ration should contain enough mineral matter
- ▶ Ration should be fairly laxative
- ▶ Ration should be fairly bulky to satisfy the hunger
- ▶ Ration should be properly prepared to render it more digestible and palatable





## Importance of feeding green fodder

- ▶ Green succulent fodder is of great importance in feeding of milch animals because of their cooling and slightly laxative action.
- ▶ Green fodder is bulky, easily digestible, laxative and contain enough of necessary vitamins.
- ▶ It increases milk fat percentage
- ▶ Aid in increasing the appetite and help in keeping the animal in good condition.
- ▶ Leguminous green fodder are very rich in proteins.





## Importance of feeding dry fodder

- ▶ Dry fodder like paddy straw is a rich energy source used when green fodder is inadequate
- ▶ Dry fodder is a poor protein source
- ▶ Highly fibrous in nature
- ▶ It gives bulkiness to the feed







## Importance of feeding concentrate

- ▶ It provides balanced ration to the animals
- ▶ It supplies all essential nutrients required for growth
- ▶ It improves production
- ▶ High level of concentrate feeding can be used for fattening livestock.
- ▶ It decreases methane production





## Feed and fodder requirement – status and demand

	<b>Requirement (MT)</b>	<b>Availability (MT)</b>	<b>Deficit (%)</b>
Green fodder	827	734.2	11.24
Dry fodder	426	326.4	23.4

(Ajoy, 2019)





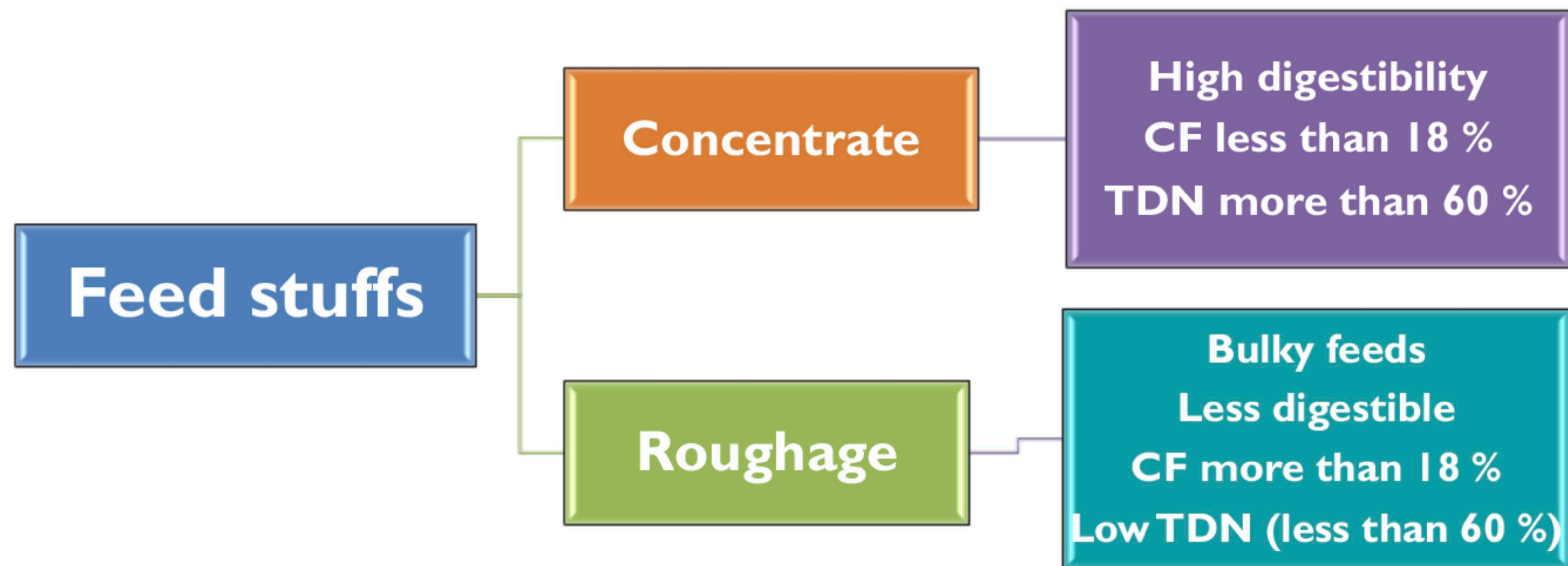
## Significance of Feed and fodder sources

- ▶ **Livestock rearing is gradually moving from farming to industrial and business enterprise**
- ▶ **In business entity – cost incurred and profit earned is important**
- ▶ **Feeding account 70 – 75 % of the total cost**
- ▶ **To earn profit, suitable feeding strategies with proper inclusion of feed and fodder resources is needed**



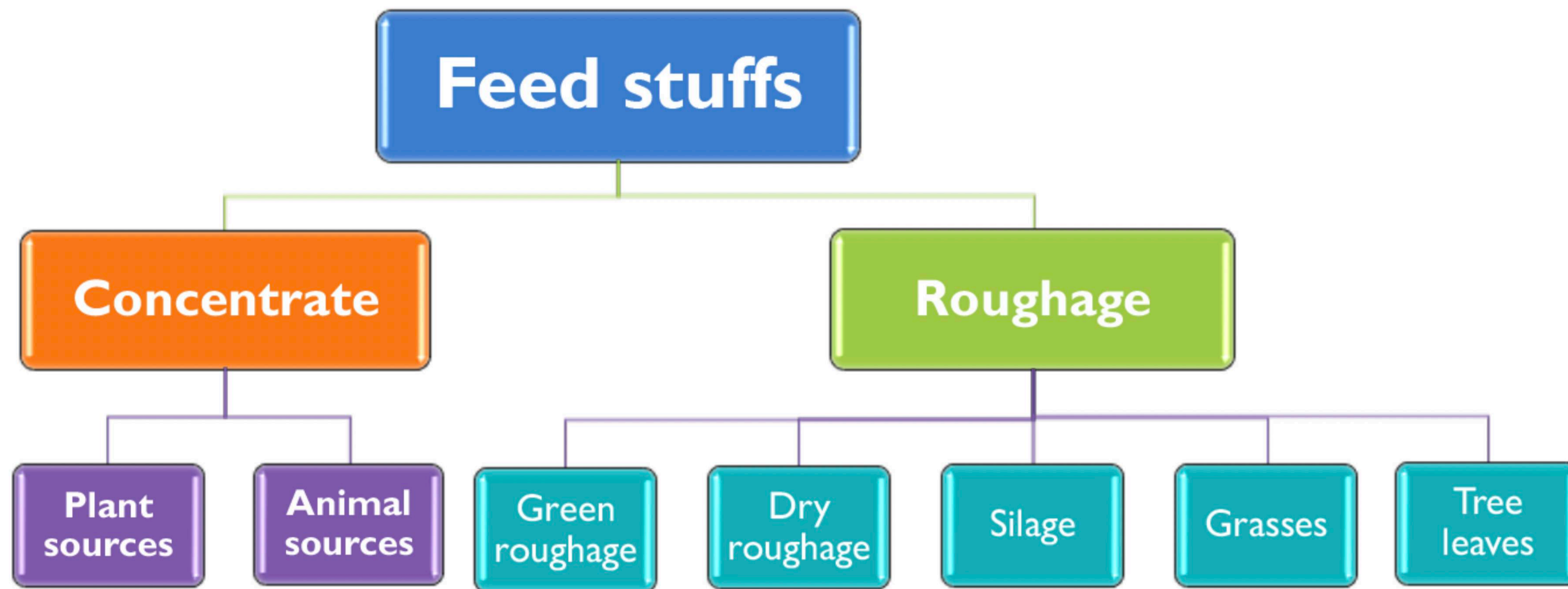


## Classification of feeds and fodder



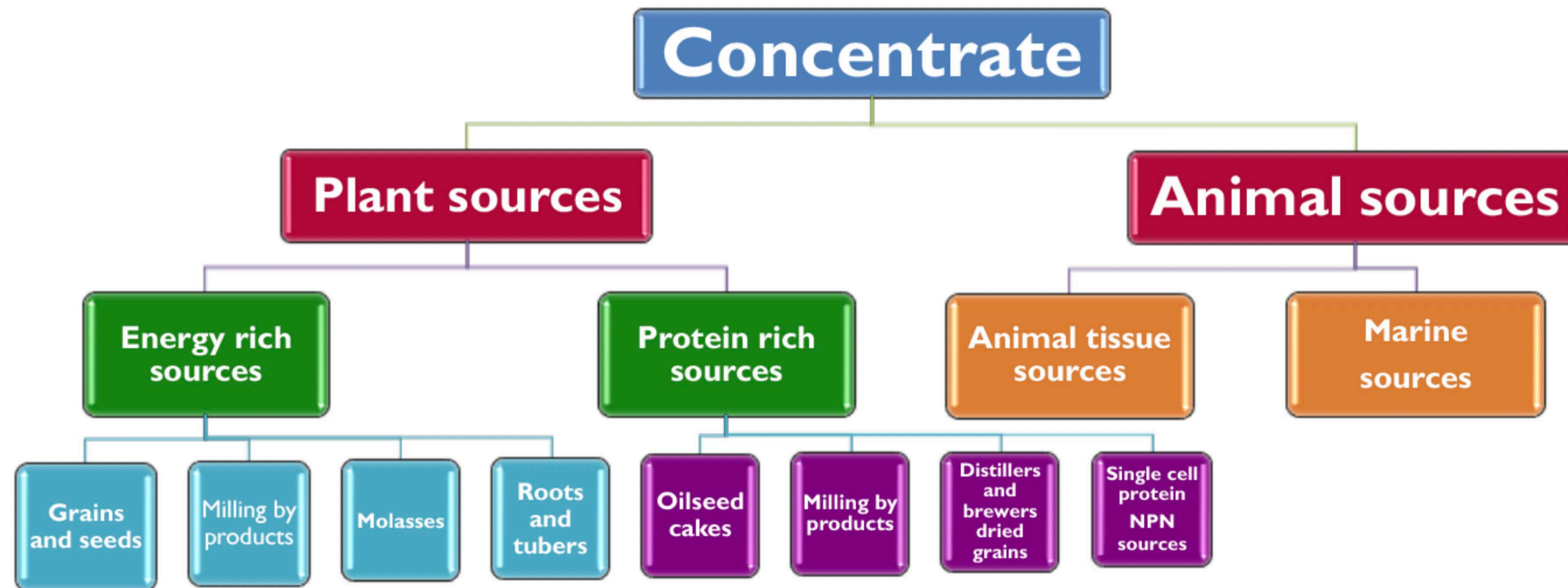


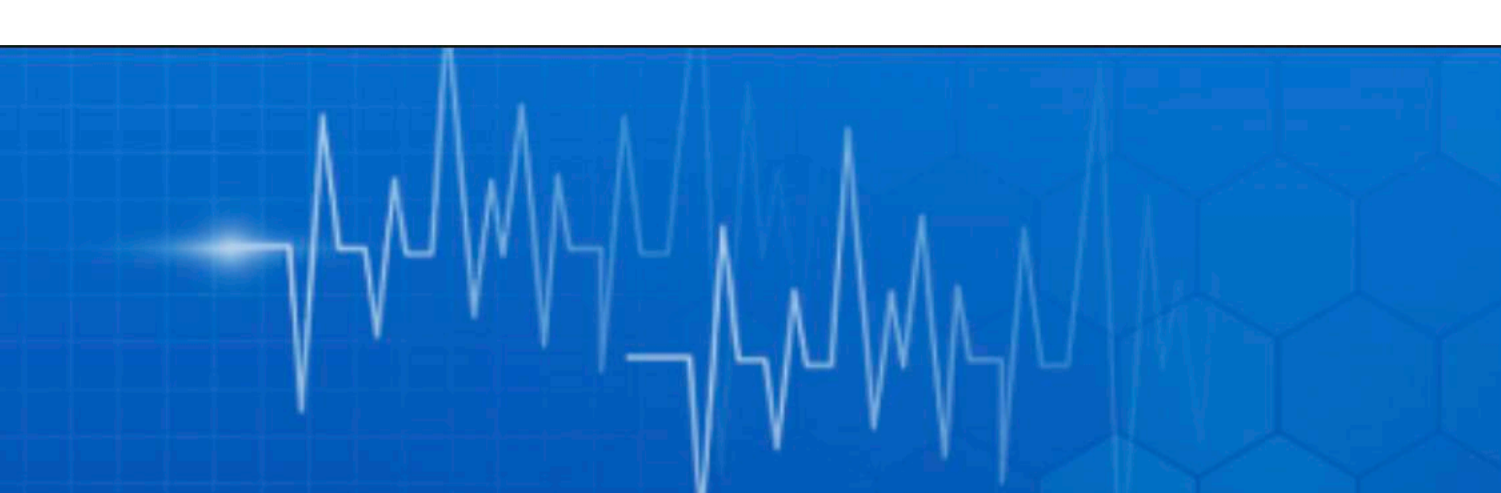
# Classification of feeds and fodder





## Classification of Concentrate





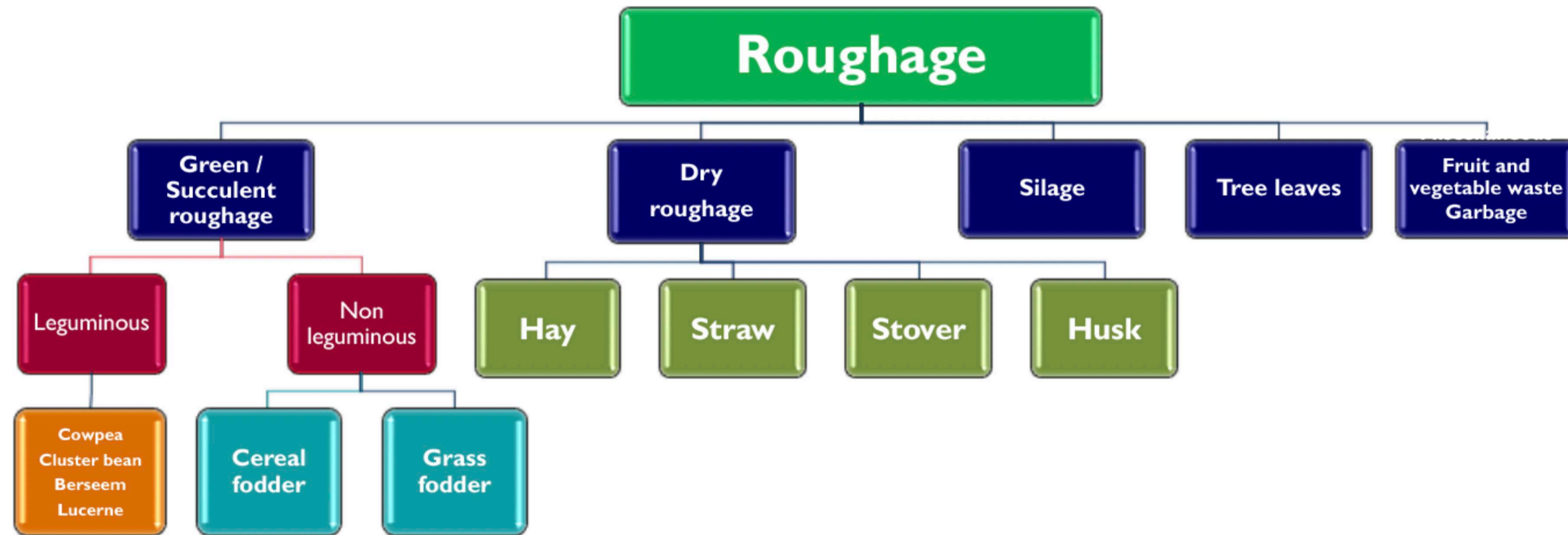
## Roughages

- ▶ Contains high content of cell wall material like hemicellulose, pectin, polyuronides, silica and other components
- ▶ Roughages are **low in readily available carbohydrates**
- ▶ Lignin which is associated with cell wall limits fiber digestibility
- ▶ Protein, mineral and vitamin are highly variable

Roughage	
Succulent / green	Dry roughage
60 – 90 % moisture	10 -15 % moisture
Pasture Fodder crops Tree leaves	Hay Straw



# Classification of Roughages







## Classification of Roughages

- ▶ **A knowledge on classification of feed stuffs will help the stakeholders to better comprehend the feeding strategies to be followed for his animals.**
- ▶ **Understanding different types of feeds and fodder will help to meet the nutrient requirement of animals**
- ▶ **Will help stakeholders to evolve suitable feeding strategies with proper inclusion of feed and fodder resources**





*Thank you*

