



Empowering People



# Welcome to the Grazing Forum

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# RUMINANT NUTRITION

FOUR BASIC FOOD GROUPS



GRASS



GRASS



GRASS

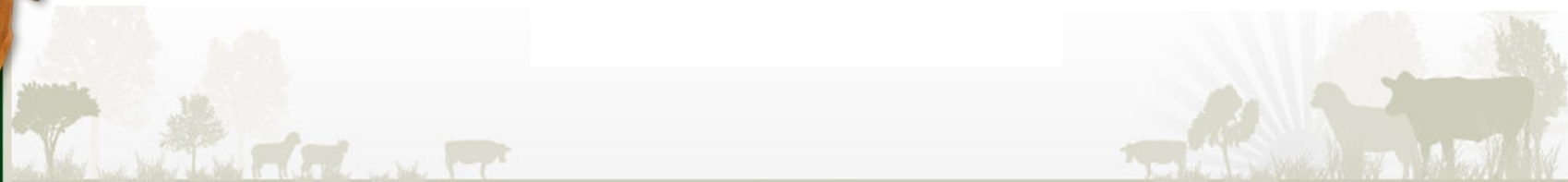


GRASS



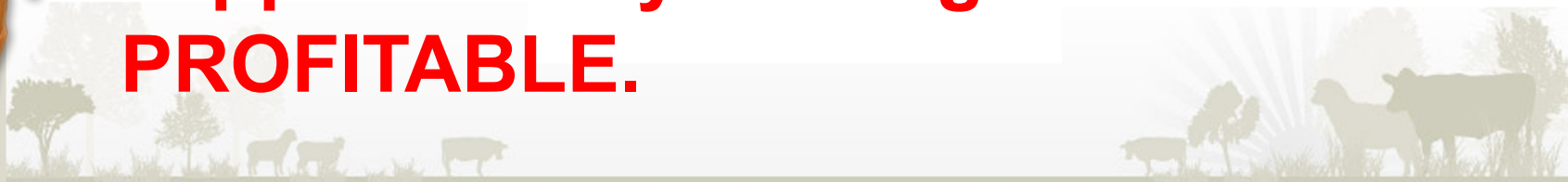
# WHAT is ESSENTIAL for NUTRITION?

1. **WATER** (10% of body wt)
2. **ENERGY** (85 – 90% of DM)
3. **PROTEIN** (8 – 15% of DM)
4. **MACRO MINERALS** (eg P, Ca, S)
5. **MICRO MINERALS** (eg Zn, Cu)
6. **VITAMINS** (A, B, C, D, E)



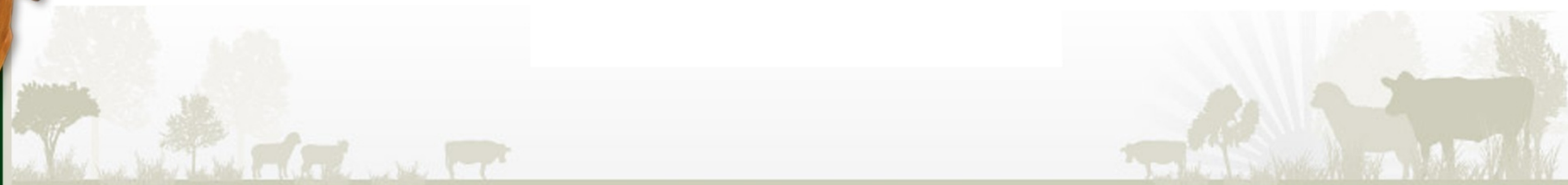
# The PRINCIPLES of RUMINANT NUTRITION

1. **WATER** is a critical nutrient
2. Production needs adequate **ENERGY** availability.
3. **Rumen bug populations determine feed intake and PROTEIN.**
4. **Balance MINERALS** for optimal production.
5. **Supplementary feeding must be PROFITABLE.**



# Nutrition Principle 1

**WATER is a critical nutrient**



- TELL YOU WHAT -  
I'LL DRINK THIS  
AND YOU DRINK  
THE DAM WATER..





Intake 8 lt/day

Water quality  
help:  
Filter Systems  
Australia

1300 888 008

[www.filtersystemsaustralia.com.au](http://www.filtersystemsaustralia.com.au)

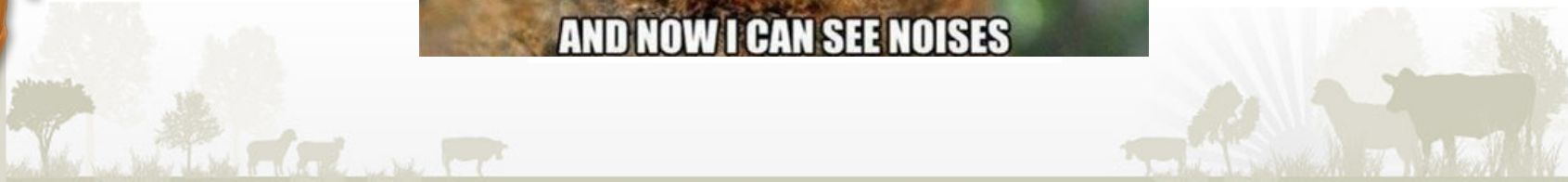


Intake 24 lt/day



# Nutrition Principle 2

Production needs adequate  
**ENERGY** availability



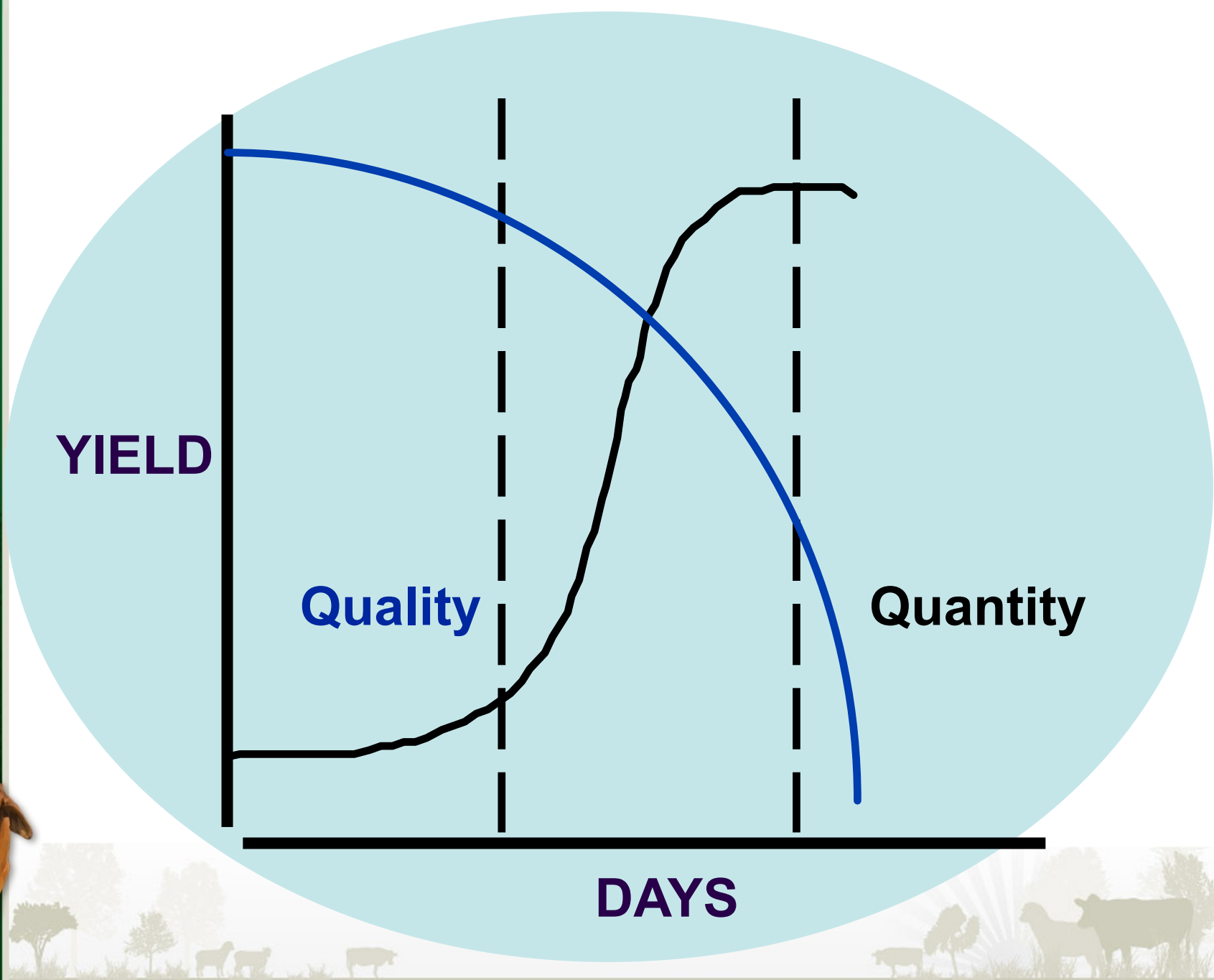


# Sources of energy

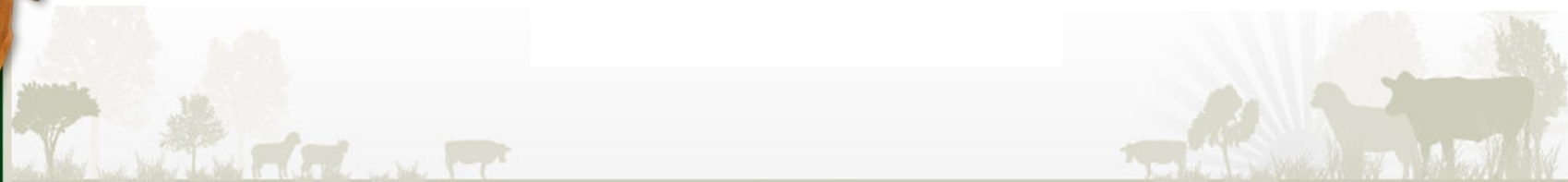
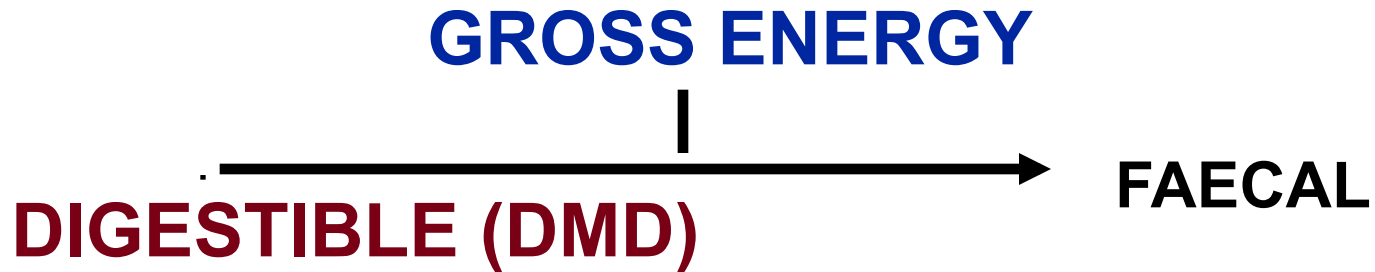


- Eg.**
- Sugar (Molasses)
  - Starch (Grain)
  - Cellulose (Forage)
  - Oil (Meals)
  - Lignin (Wood)

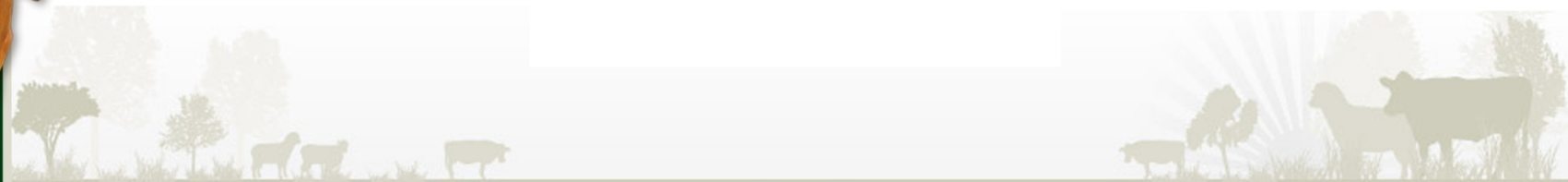
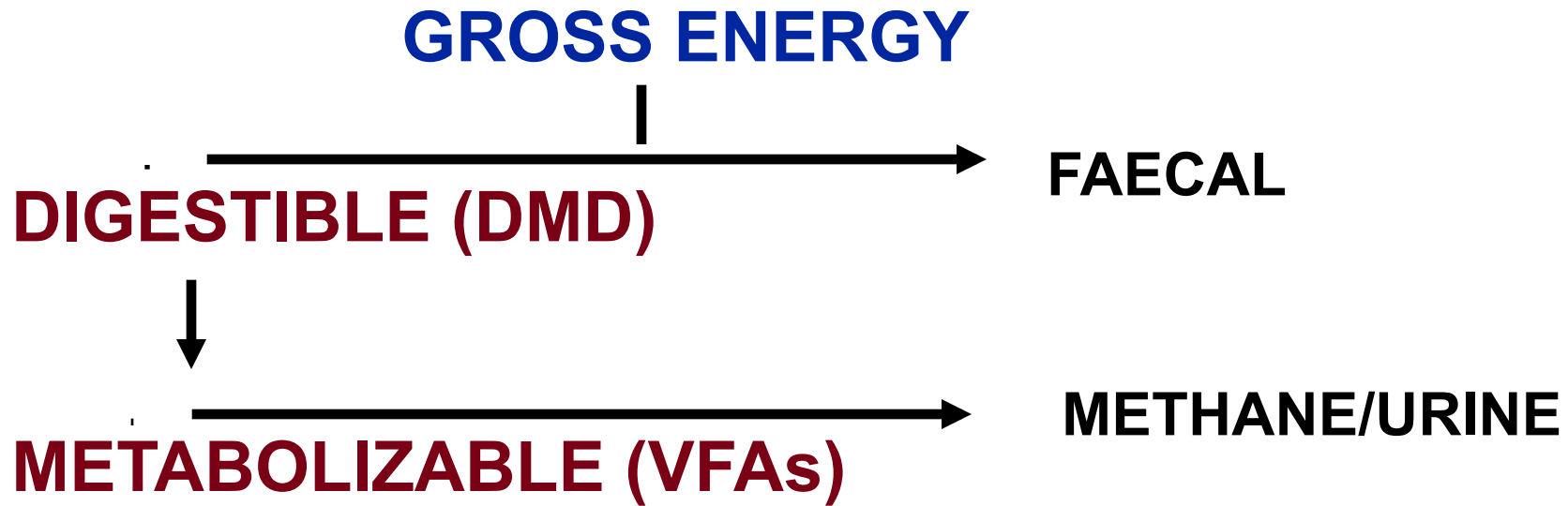




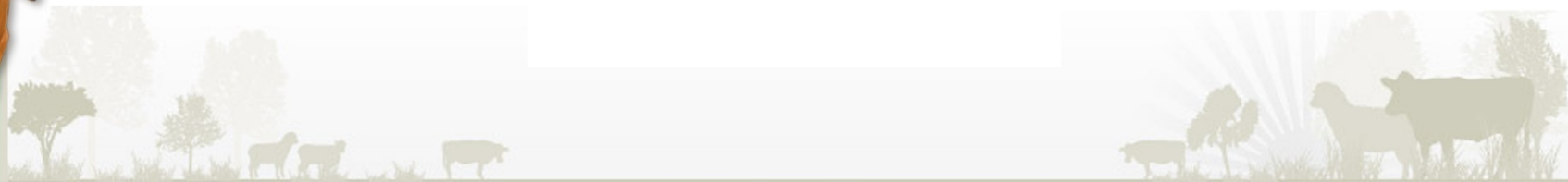
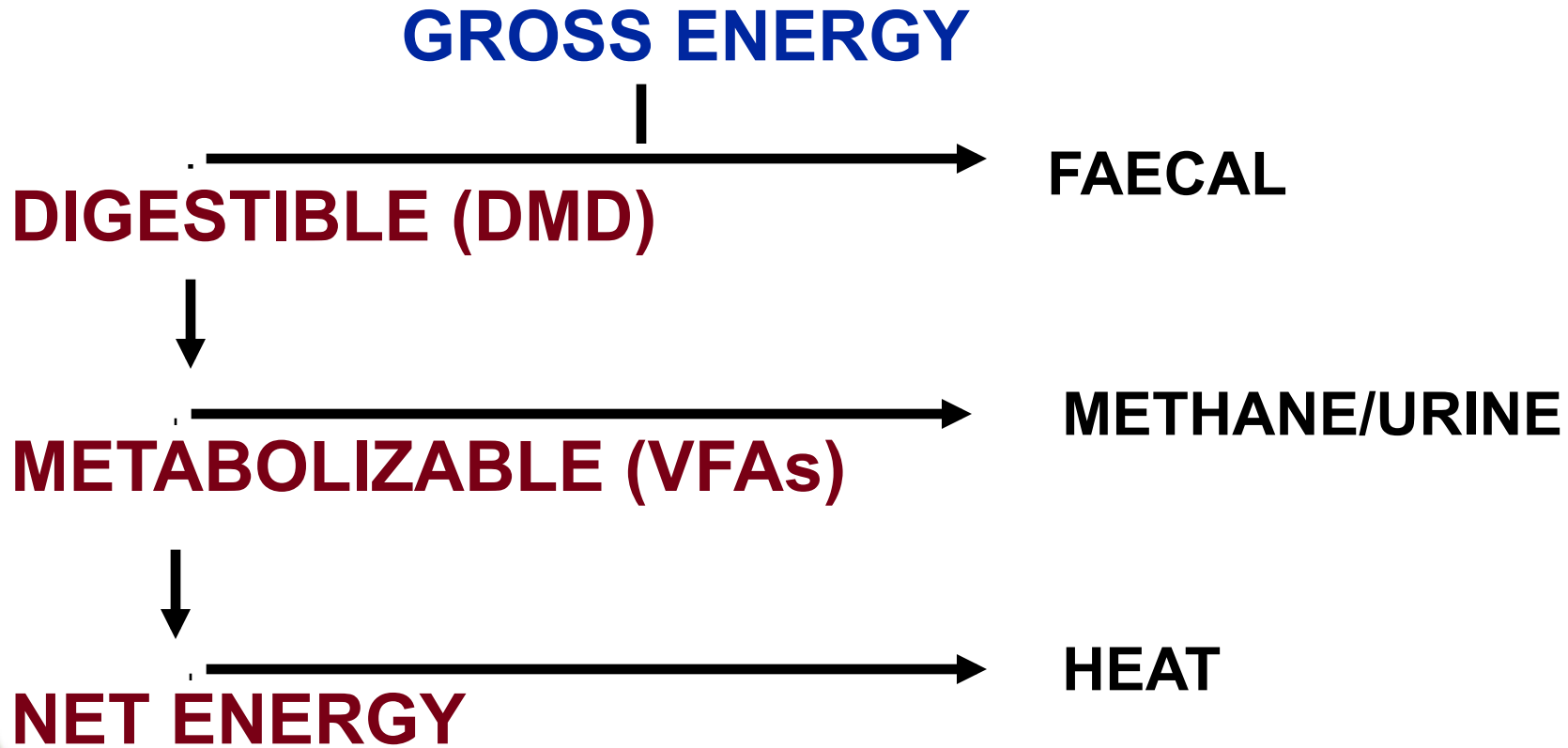
# ENERGY (MJ/kg DM)



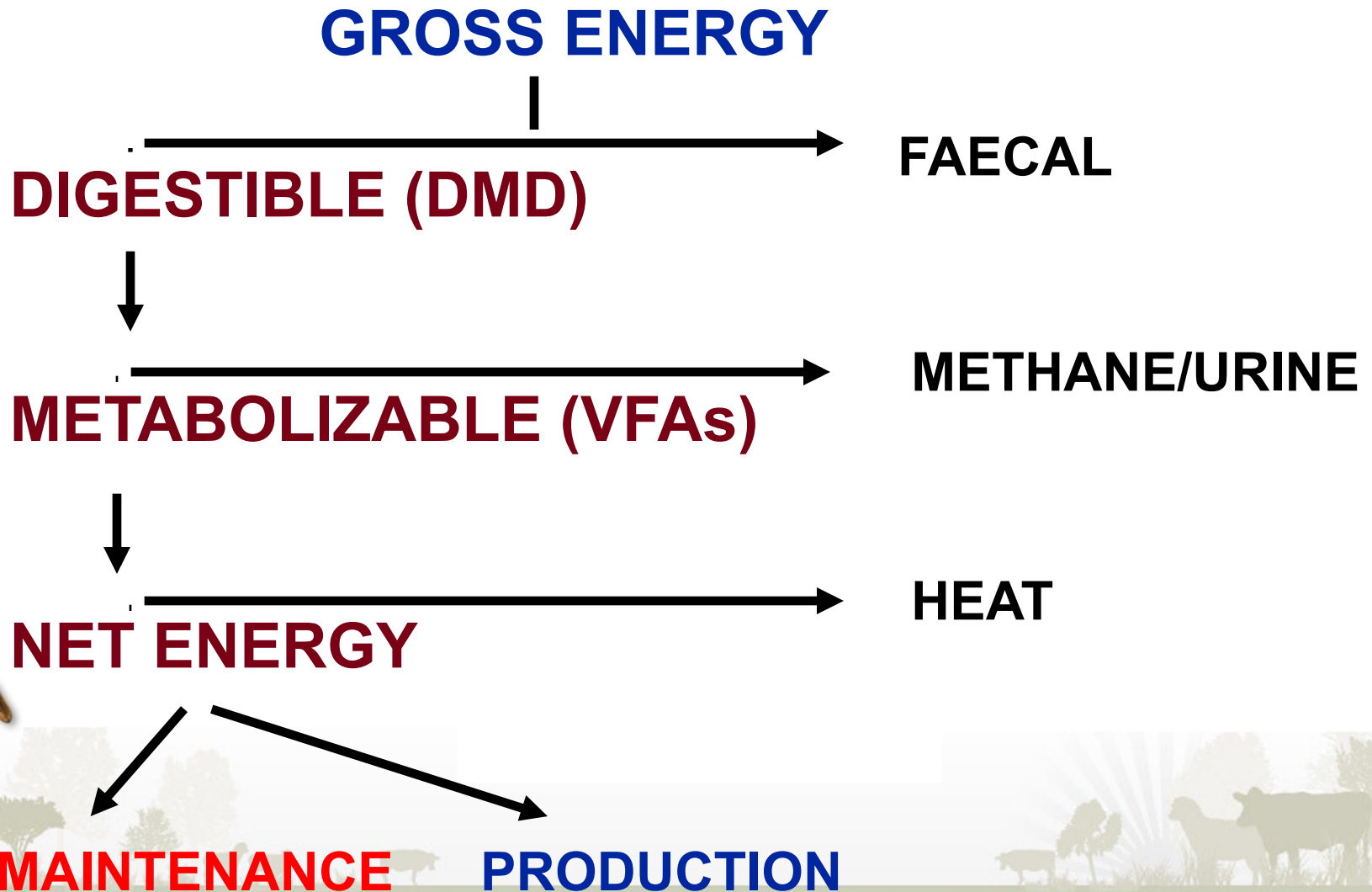
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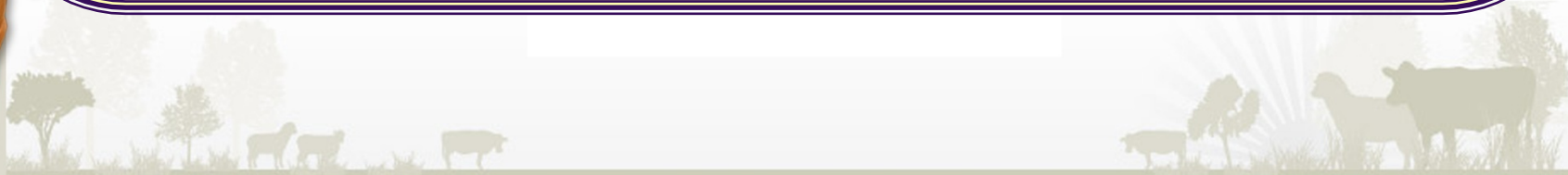
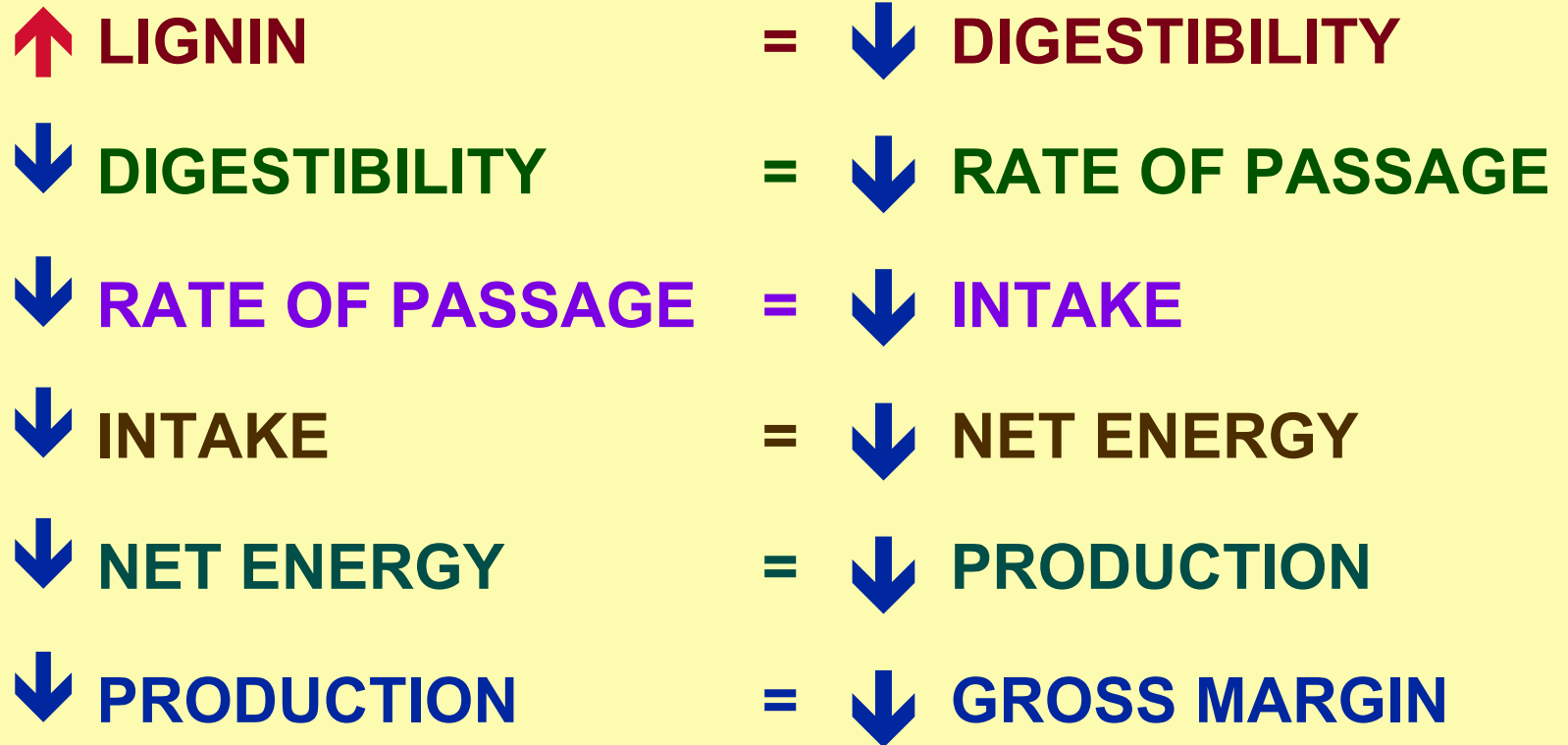


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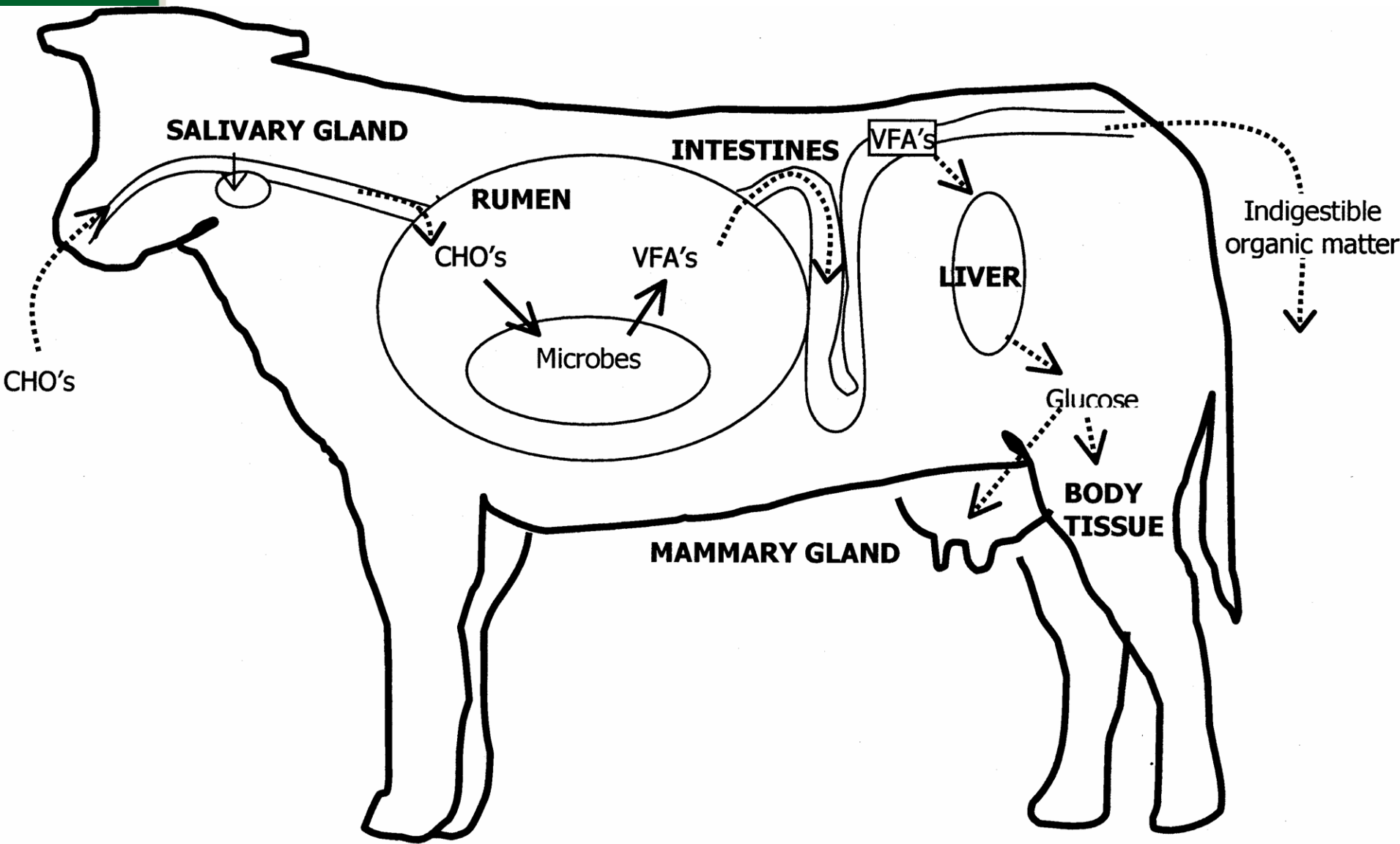


# ENERGY (MJ/kg DM)





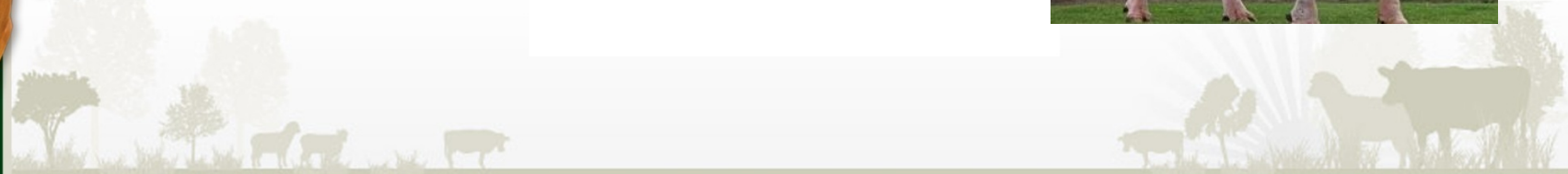
# Utilisation of Plant Carbohydrates (CHO's) in the Ruminant Animal



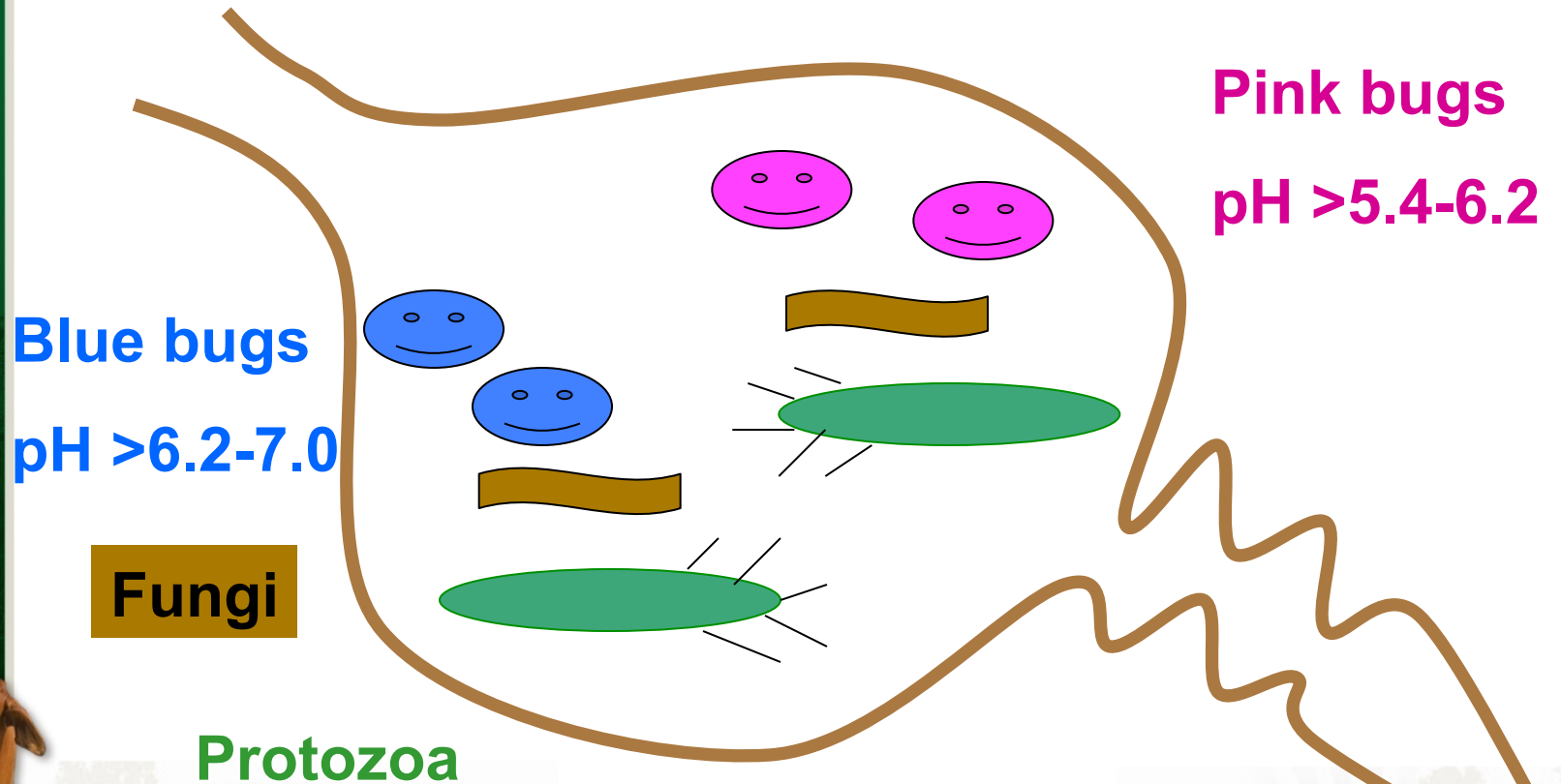


# Nutrition Principle 3

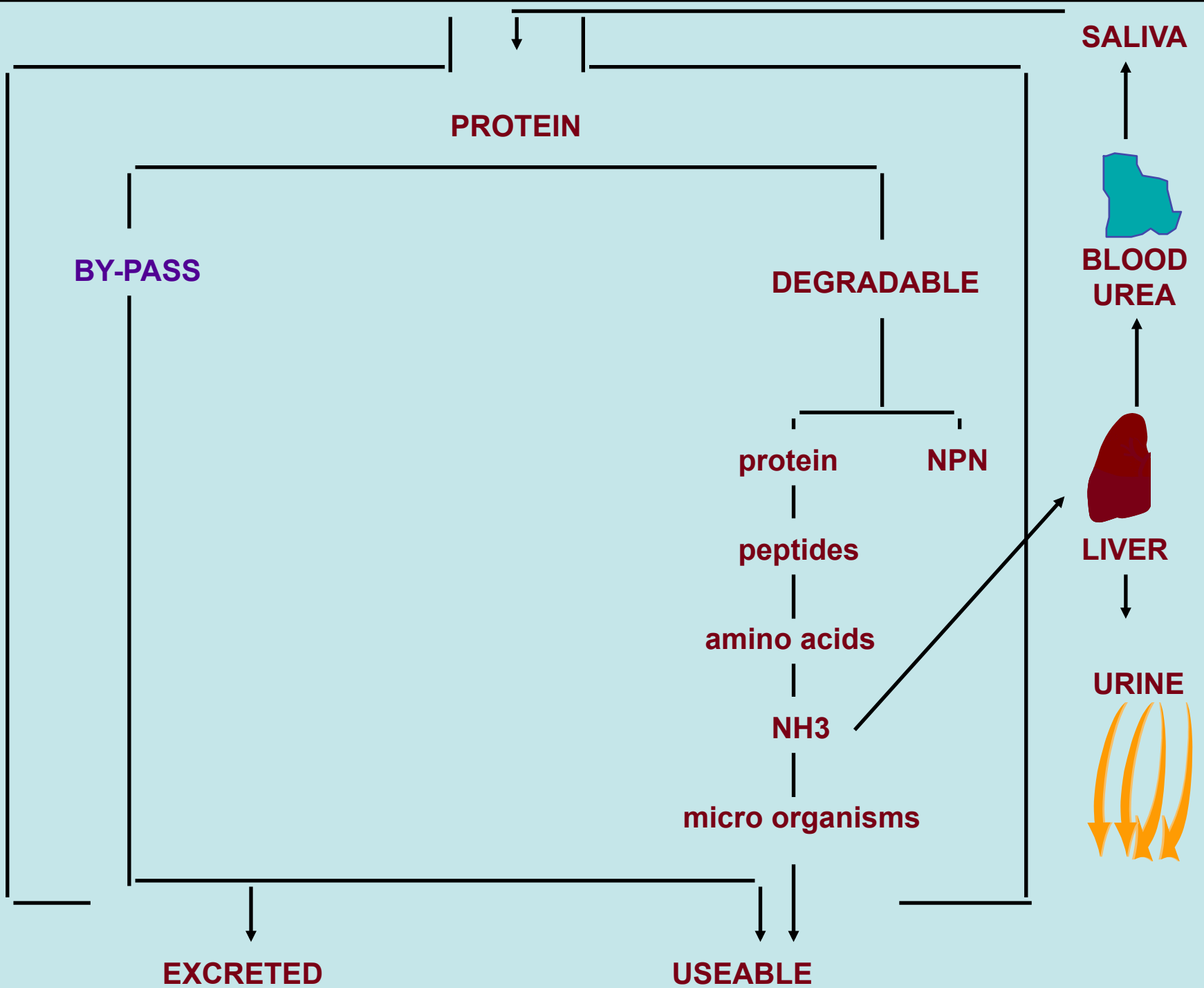
**Rumen bug populations  
determine feed intake and  
PROTEIN.**

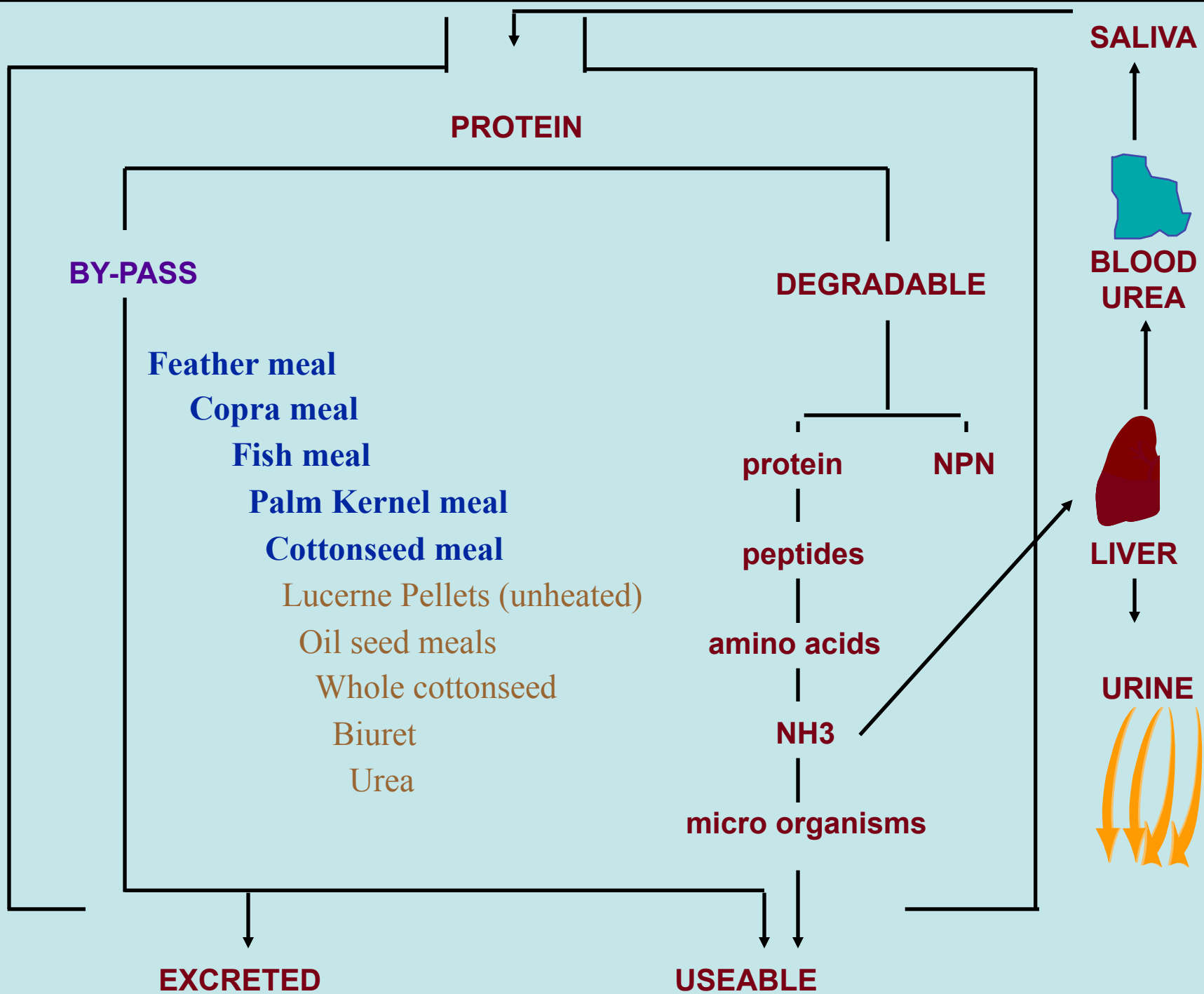


# RUMEN MICRO-ORGANISMS

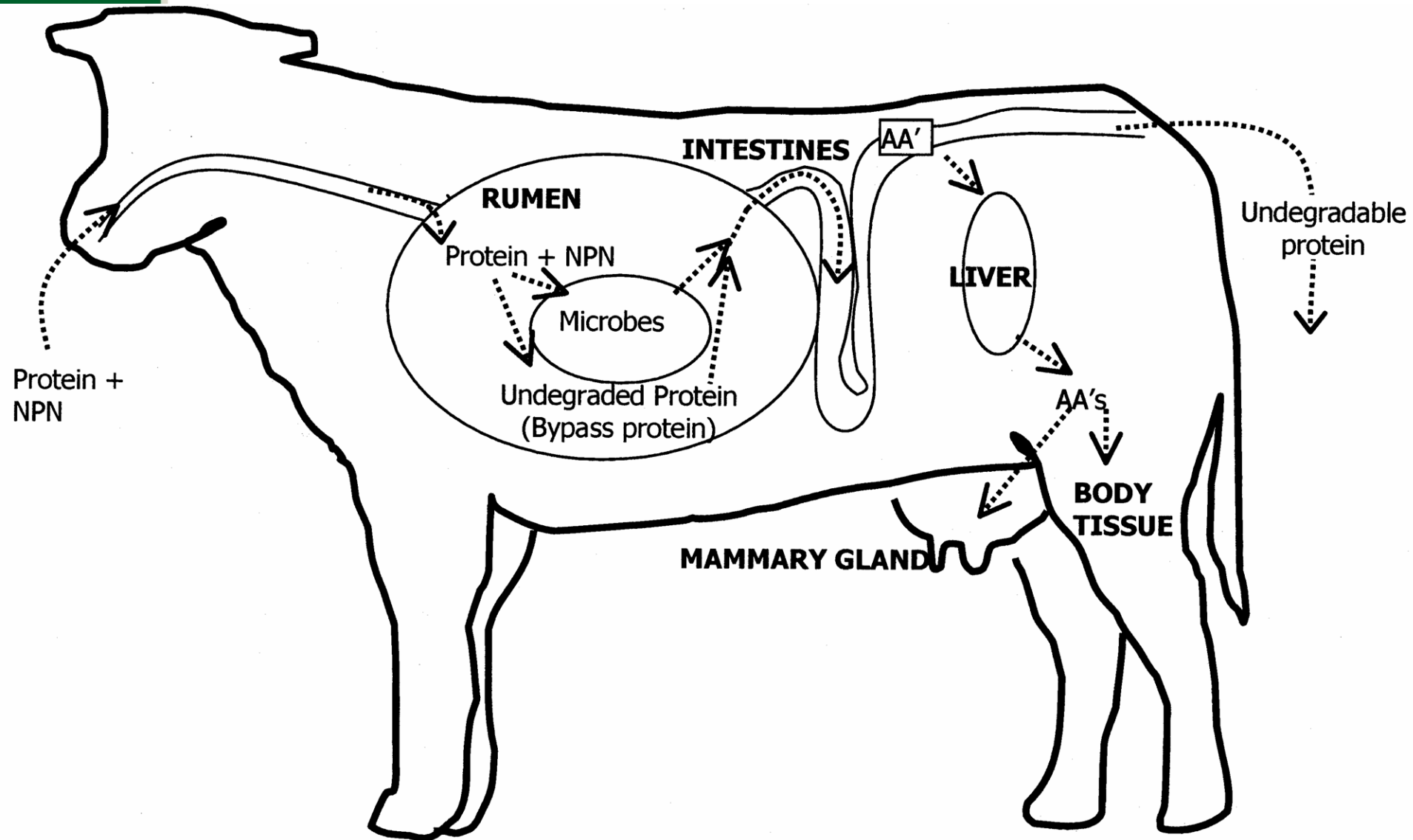






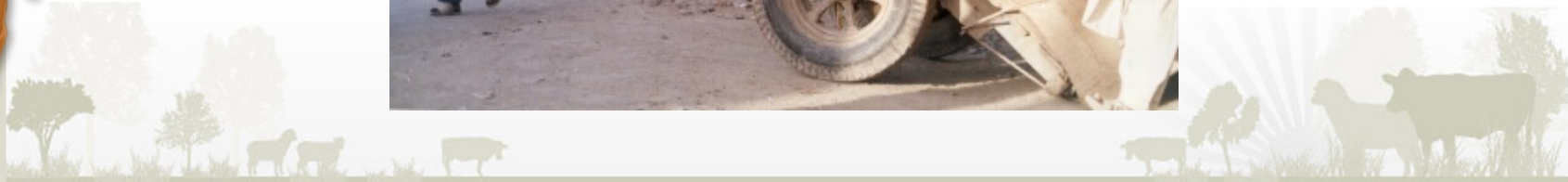


# Utilisation of Plant Proteins in the Ruminant Animal



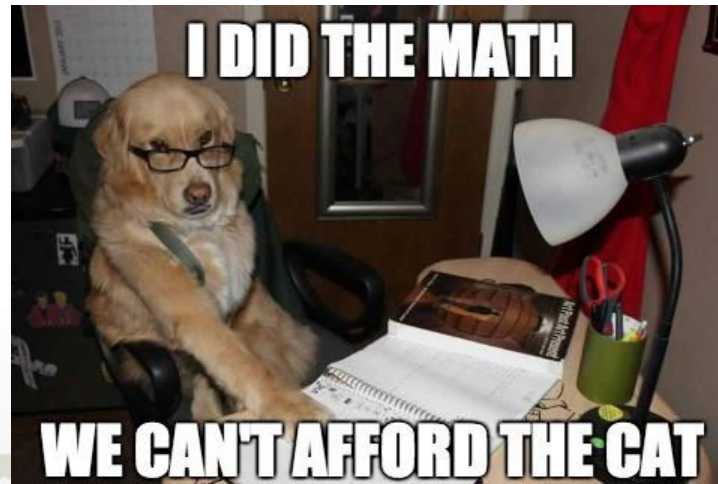
# Nutrition Principle 4

## Balance **MINERALS** for optimal production



# Nutrition Principle 5

**Supplementary feeding must be  
PROFITABLE.**





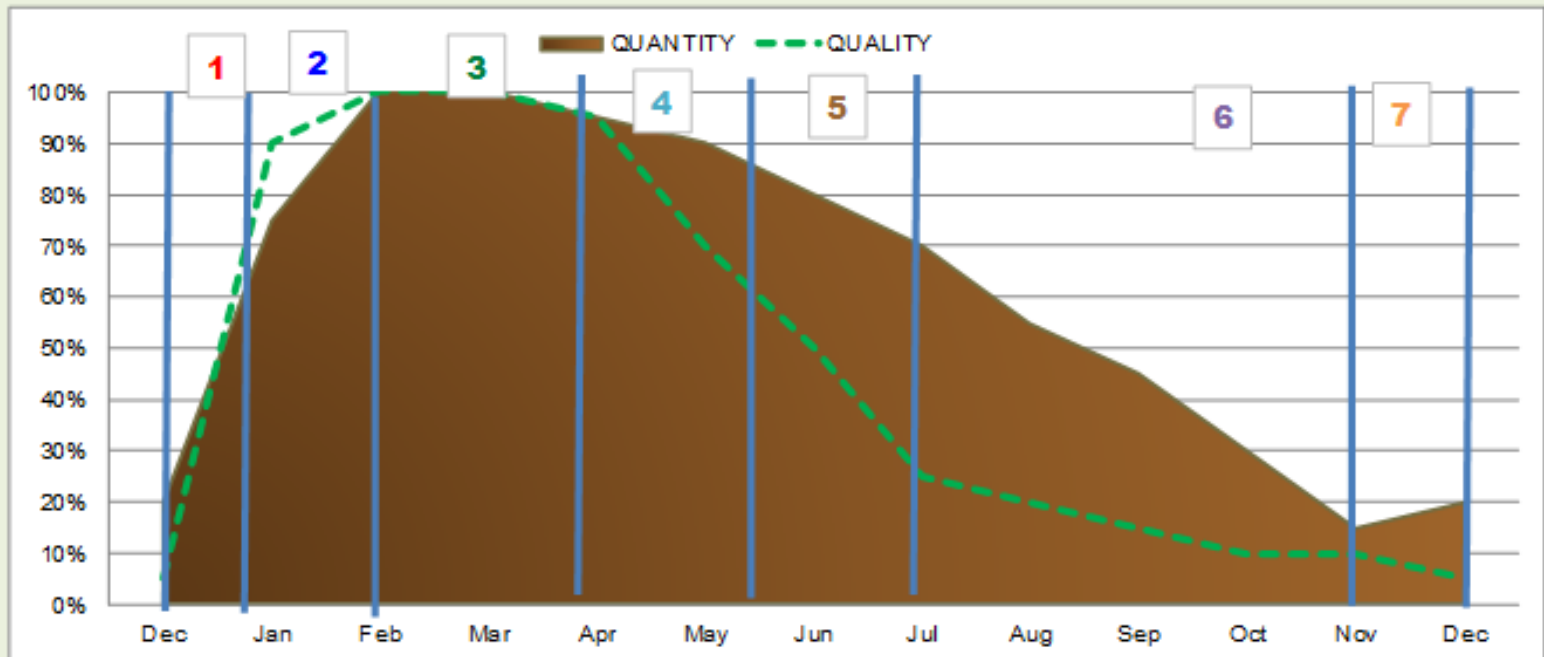
# TROPICAL NUTRITIONAL SEASONS

## Feed Curve Calculator

Tropical Environment - Southern Hemisphere (C4 Species)

Insert Starting Month:	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Insert QUANTITY as %:	20%	75%	100%	100%	95%	90%	80%	70%	55%	45%	30%	15%	20%
Insert QUALITY as %:	5%	90%	100%	100%	95%	70%	50%	25%	20%	15%	10%	10%	5%

Please Note: Quantity and quality are relative on a scale of 0 to 100 at the END of the month And quantity



NB. Enter your data in the yellow cells above.









A man wearing a tan hat, a grey sweater, and blue jeans stands in a field next to a trailer. The trailer has several black trays containing soil samples, labeled with 'Cm', 'Salt', 'C+H', and 'Superphos'. The man is smiling and has his hand on the trailer's roof. The background shows a grassy field with trees under a clear sky.

Cm  
Salt  
C+H  
Superphos







# REPRODUCTION:

**THE MOST IMPORTANT  
FACTOR AFFECTING GM  
IN A BREEDING  
ENTERPRISE**

*Help them do what they do  
naturally*





# ... FERTILITY



# And... Male FERTILITY??



**Unfortunately ...  
THIS is reality!**

BE AFRAID BE VERY AFRAID



# REPRODUCTION PRINCIPLES

1. **BCS of 3+ at calving**
2. **Well grown replacement heifers**
3. **Cows on rising plane of nutrition (FLUSH)**
4. **60 day CALVING**
5. **Tested fertile bulls**
6. **48hr calf removal**
7. **Males and Females free of reproductive diseases**
8. **Sound genetic Selection & Monitoring**
9. **Mating Timed Correctly**

