



FEEDING FOR DAIRY FARMING

EHSAAN ULLAH KHAN

Lecturer

Department of Food & Nutrition

UVAS, Lahore.

OUTLINE

- Conventional system
- Trends
- The balanced dairy ration
- Feeding strategies & Recommendations
 - Day in life of cow
 - Nutrient & Milk yield relationship
 - Feed energy utilization
 - TMR feeding during lactation
 - Concentrate feeding & rumen acidosis
 - The particle size of dairy feed
- Feed resources for the dairy ration
- Benefits of balanced feeding
- Take home message

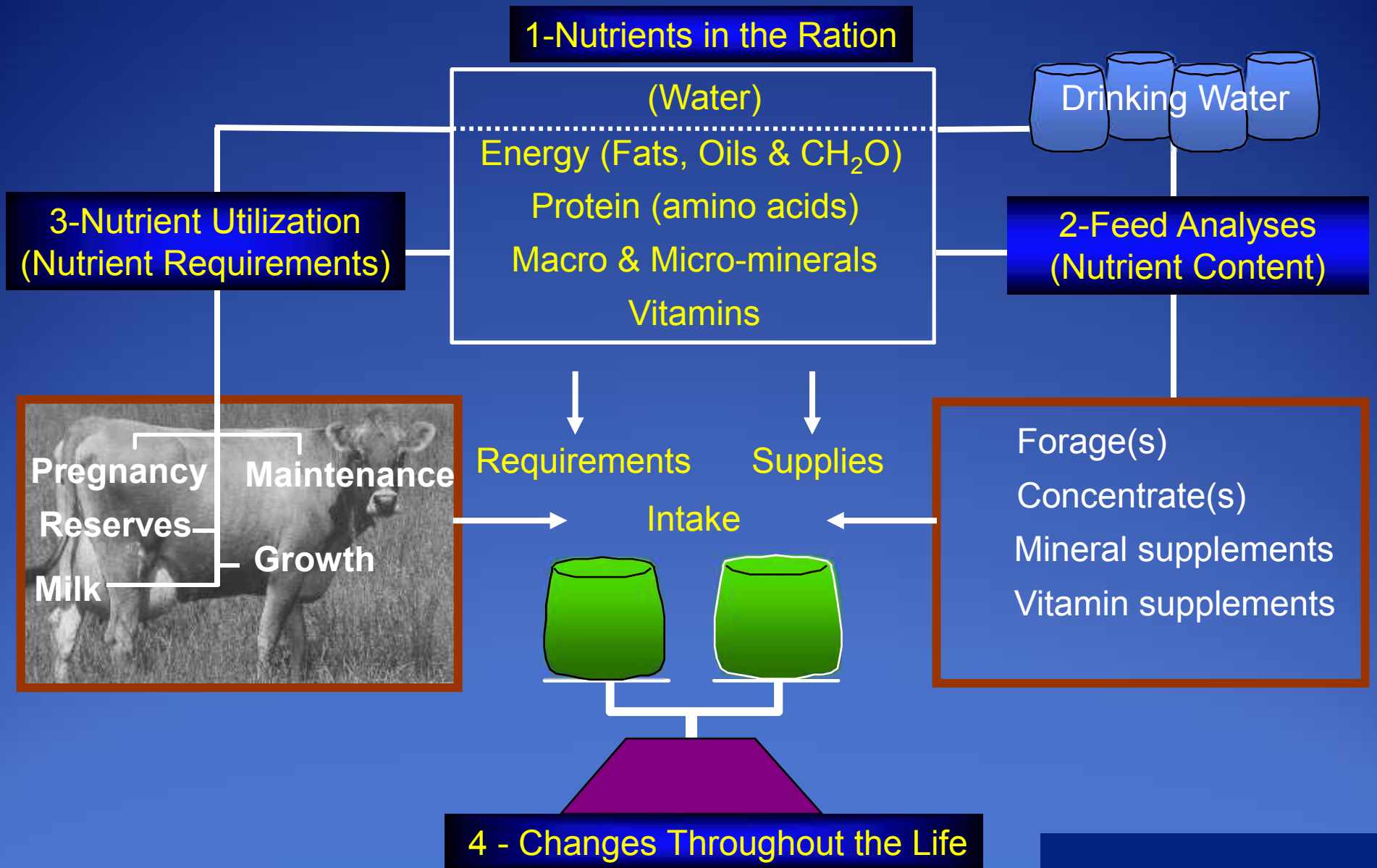
CONVENTIONAL SYSTEM



TRENDS



THE BALANCED DAIRY RATION



***FEEDING
STRATEGIES &
RECOMMENDATIONS***

Day in Life of a Cow

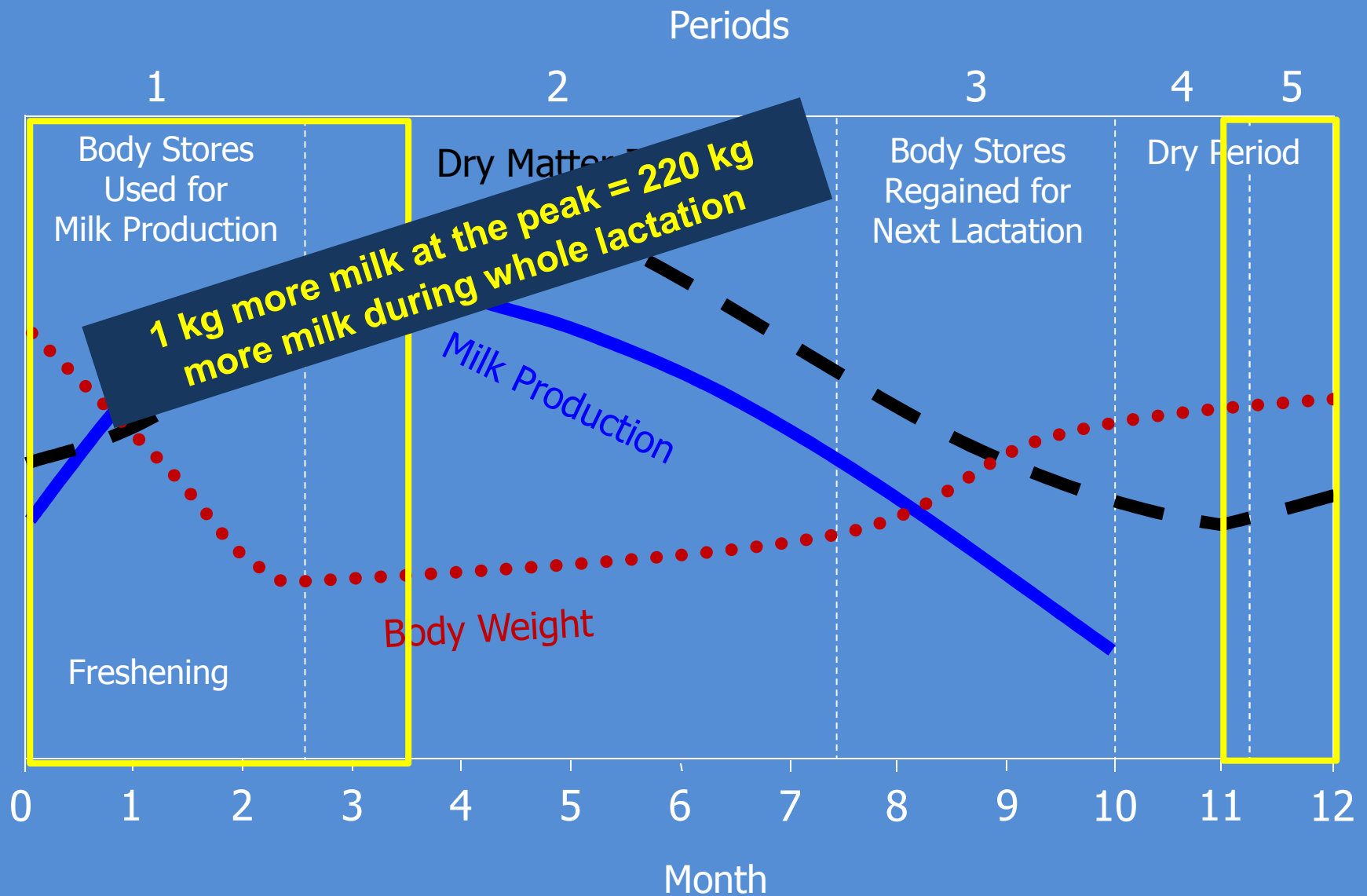
- Lying down – >12 hours/day
 - Cud Chewing – 8 hours
 - (60% of down time)
- Standing and socializing– 3 hours
- Feeding – 5 hours
 - 10-11 meals per day
- Drinking – 0.5 hours
 - 12-15 times per day
- Imposed Chores – 3 hours



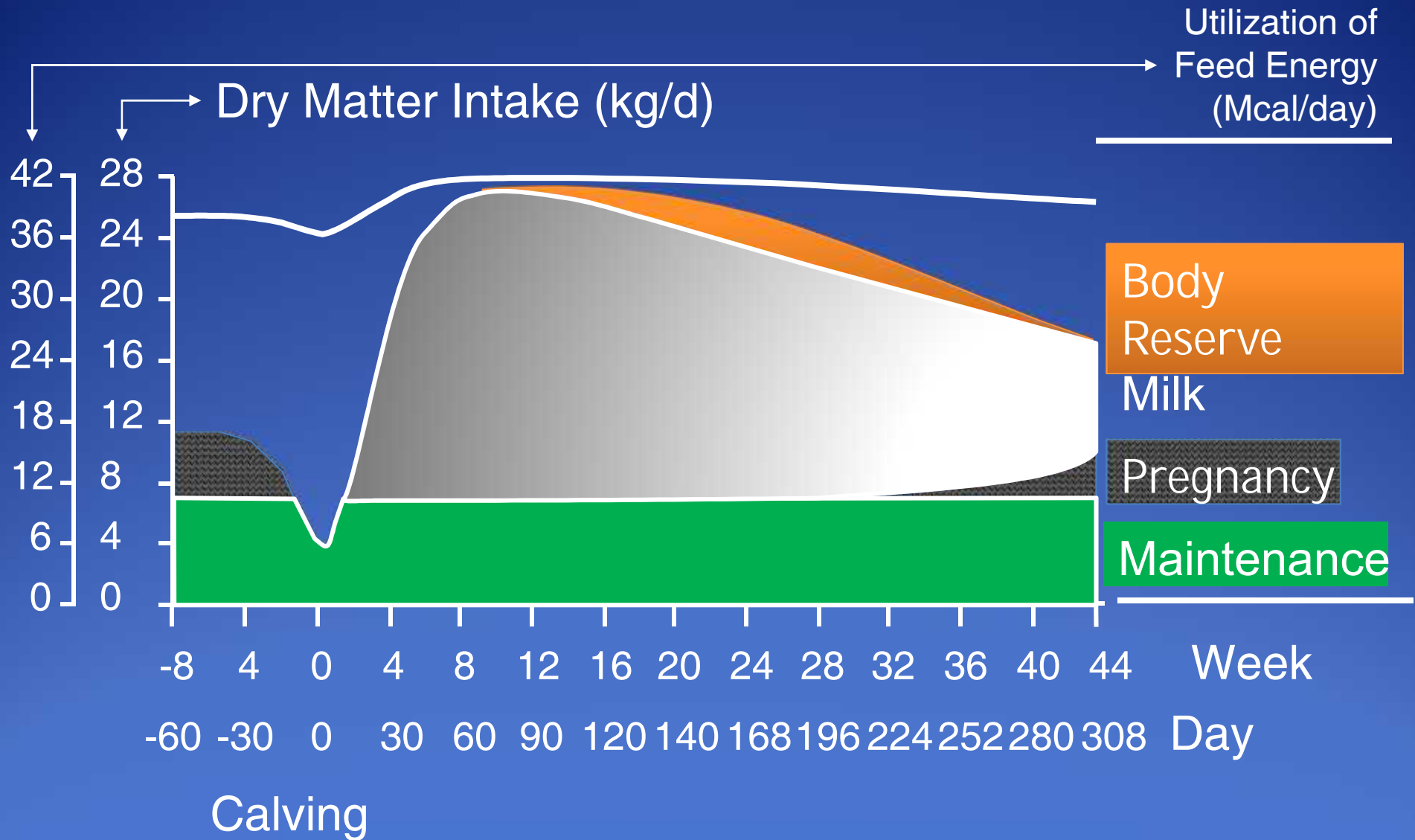


**Cows produce 17% more saliva
eating with their heads down**

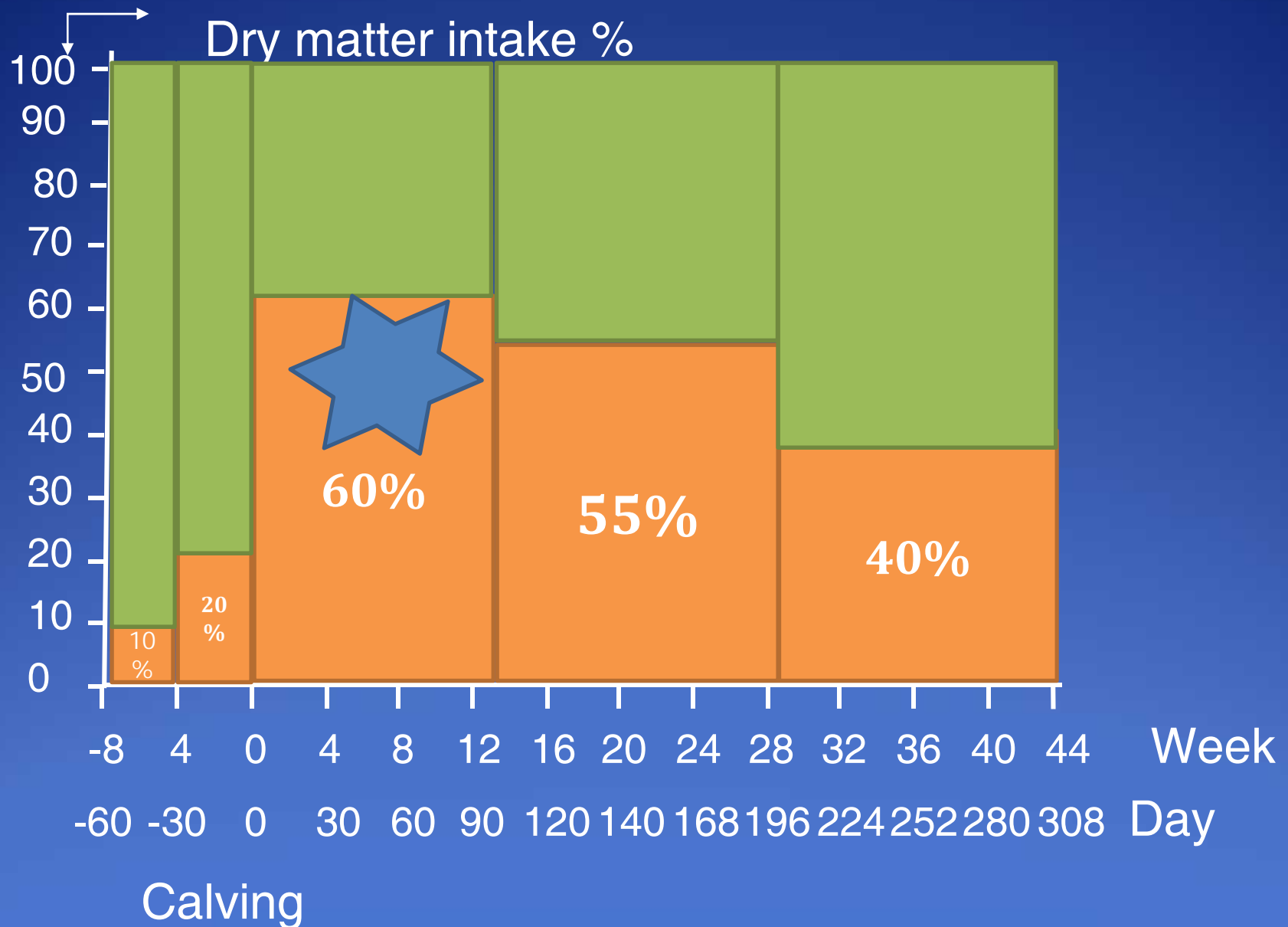
Nutrient and Milk Yield Relationships In Lactation and Gestation Cycle



Feed energy utilization by dairy cows

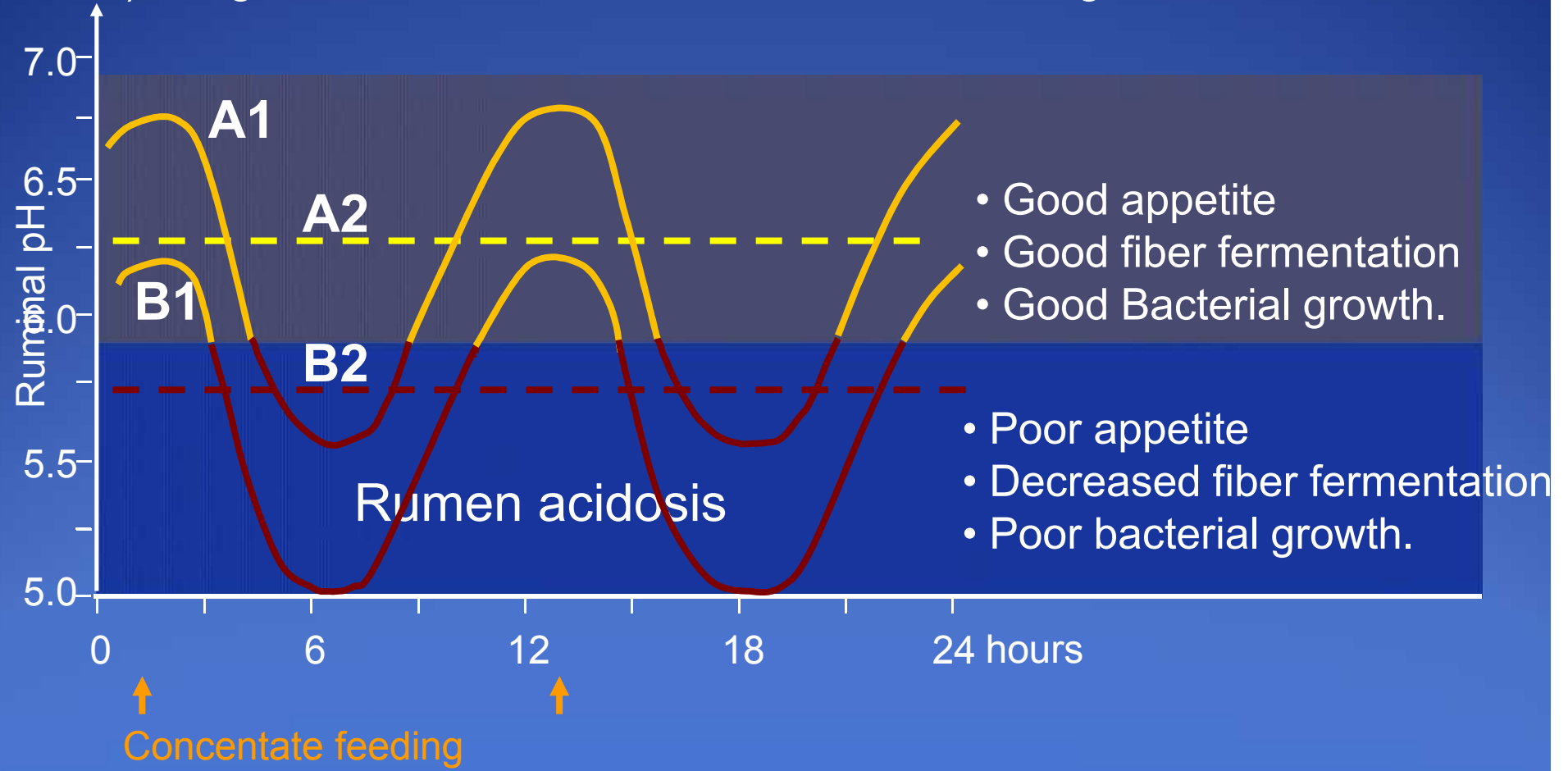


TMR feeding during whole lactation



Concentrate Feeding and Rumen Acidosis

- A1) "Small" amount of concentrates; fed twice a day, separate from forages
- A2) "Small amount of concentrates; Mixed with forages in a total mixed ration
- B1) "Large" amount of concentrates; fed twice a day, separate from forages
- B2) "Large" amount of concentrates; Mixed with forages in a total mixed ration





CONCENTRATES

Energy Source

- Maize grain
- Wheat
- Sorghum
- Rice tips
- By products
 - Rice polish
 - Rice bran
 - Wheat bran
 - Corn bran
- Sugar cane molasses

Protein Source

- Vegetable sources
 - Cotton seed cake and meal
 - Rapeseed cake and meal
 - Canola meal
 - Soy bean meal
 - Corn gluten 30% and 60%
- Urea

FODDERS & DRY ROUGHAGES

- **Summer**

- **Leguminous**

- Cowpeas
- Guara
- Moth
- Jantar

- **Non-Leguminous**

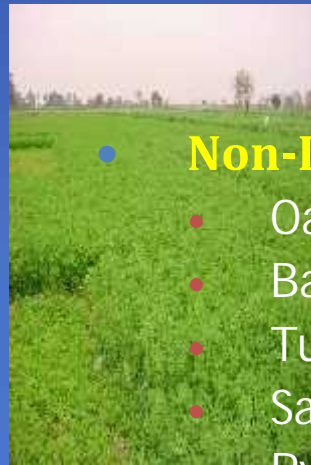
- Maize
- Sorghum
- Millets
- Saddabahar
- Mott grass



- **Winter**

- **Leguminous**

- Berseem
- Lucern



- **Non-Leguminous**

- Oats
- Barley
- Turnips
- Sarson
- Rye grass
- Sugarcane tops



- **Dry Roughages**

- Wheat straw
- Rice straw
- Maize stovers
- Sorghum stovers
- Millet stovers
- Corn cobs
- Barseem hay
- Lucern hay

SILAGE



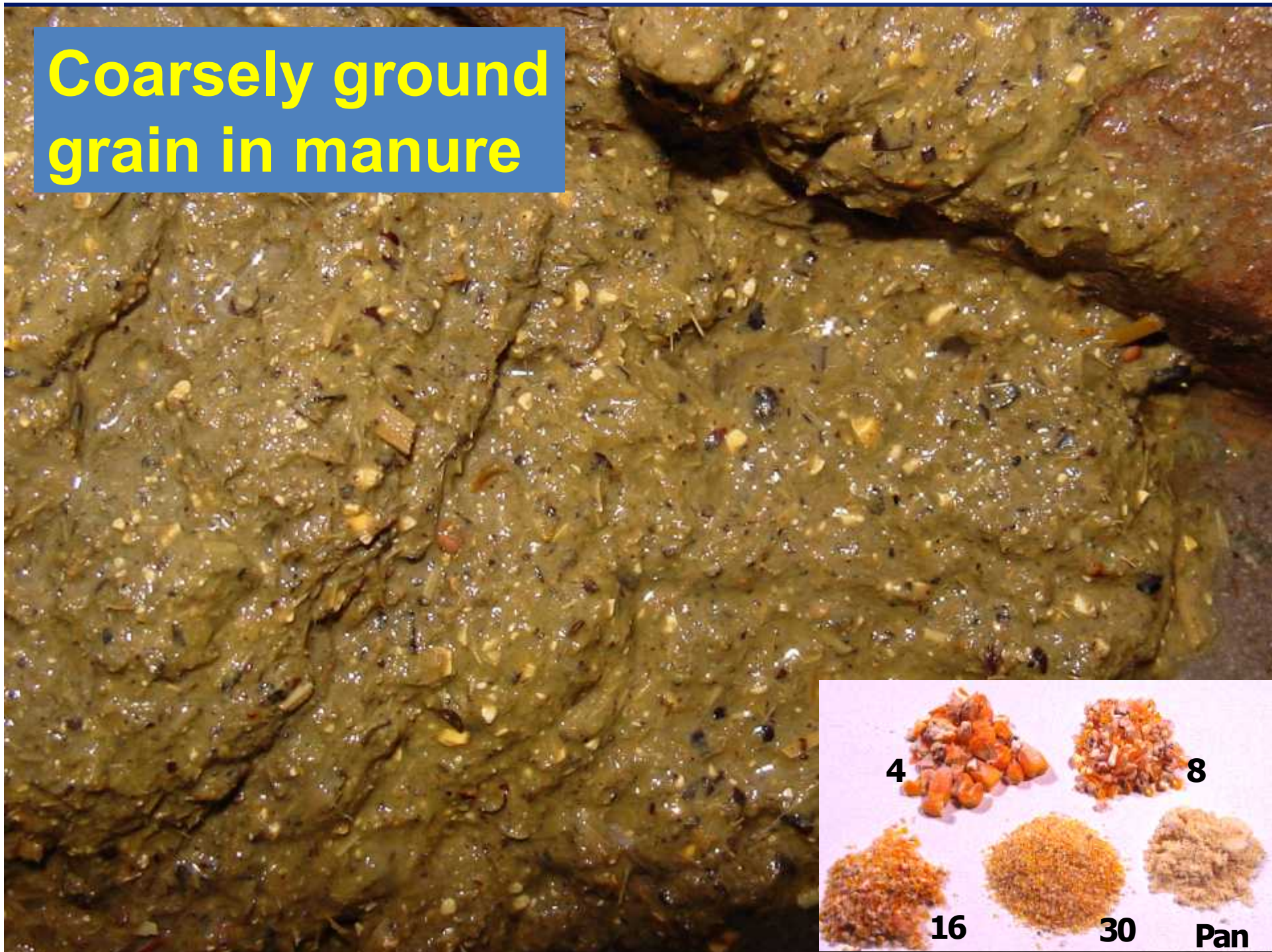
HAY



**PARTICLE
SIZE**



Coarsely ground grain in manure



FEEDING TOTAL MIXED RATION



Balanced TMR
Ration

Feed ingredients

- Forages
- Concentrates
- Mineral and Vitamins



Take Home Message

- **Ensure water availability 24 hrs a day**
- **To reduce feed cost and reduce fecal waste**
 - Group the milk herd by production level
 - Provide multiple rations (TMR) over entire lactation period
 - Provide the balanced TMR with optimal particle size
- **Take particular care for Close up Animals**
- **The best the Early Lactation Management, The best is Lactation production & so forth *higher profits***

THE END

