



DIGESTIBILITY OF FATS IN DAIRY COWS
**How are Lipids Digested
in the Intestines
of Dairy Cows?**

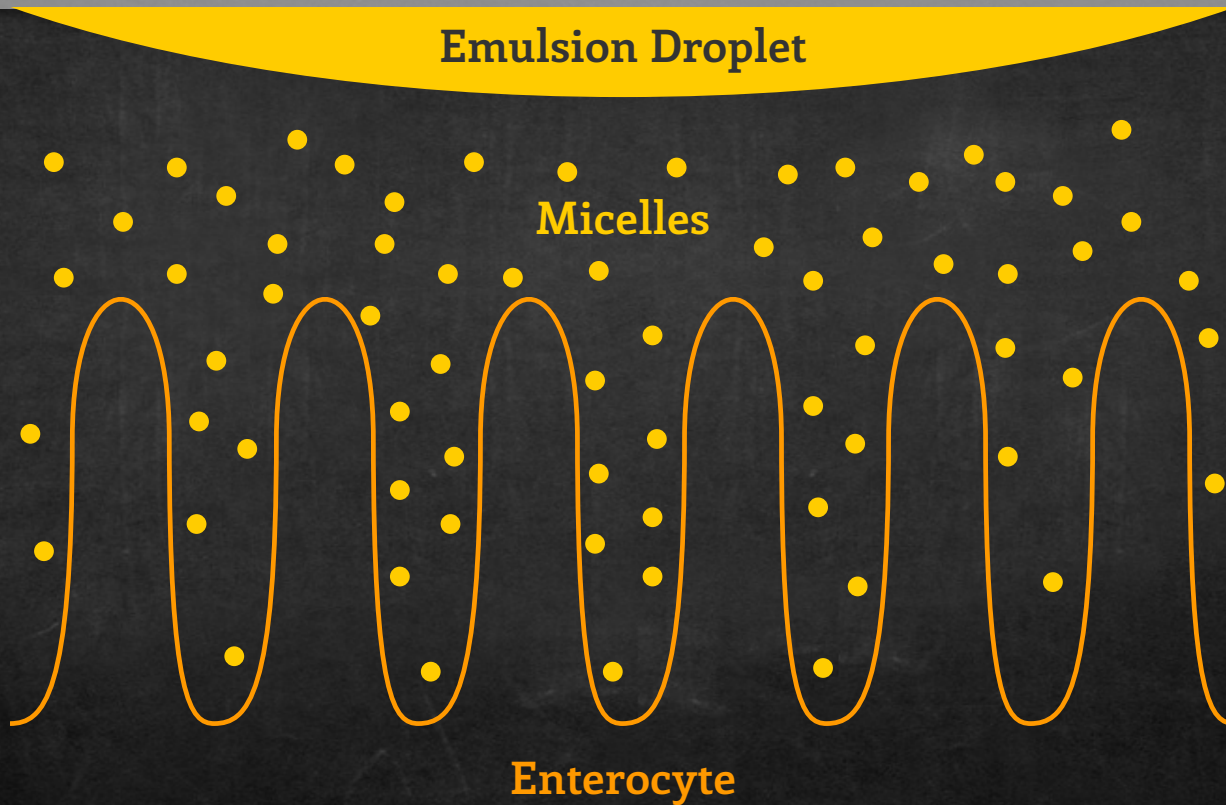
Tom Jenkins, Professor
Department of Animal &
Veterinary Sciences





DIGESTIBILITY OF FATS IN DAIRY COWS

How are Lipids Digested in the Intestines of Dairy Cows?

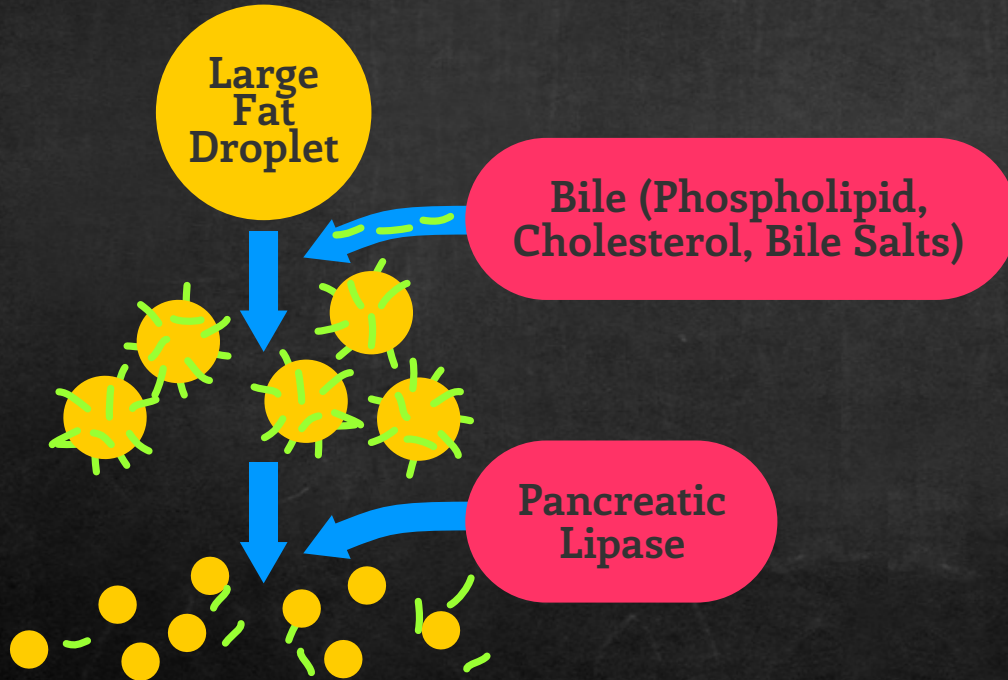




DIGESTIBILITY OF FATS IN DAIRY COWS

How are Lipids Digested in the Intestines of Dairy Cows?

Nonruminants, Pre-Ruminant Calves

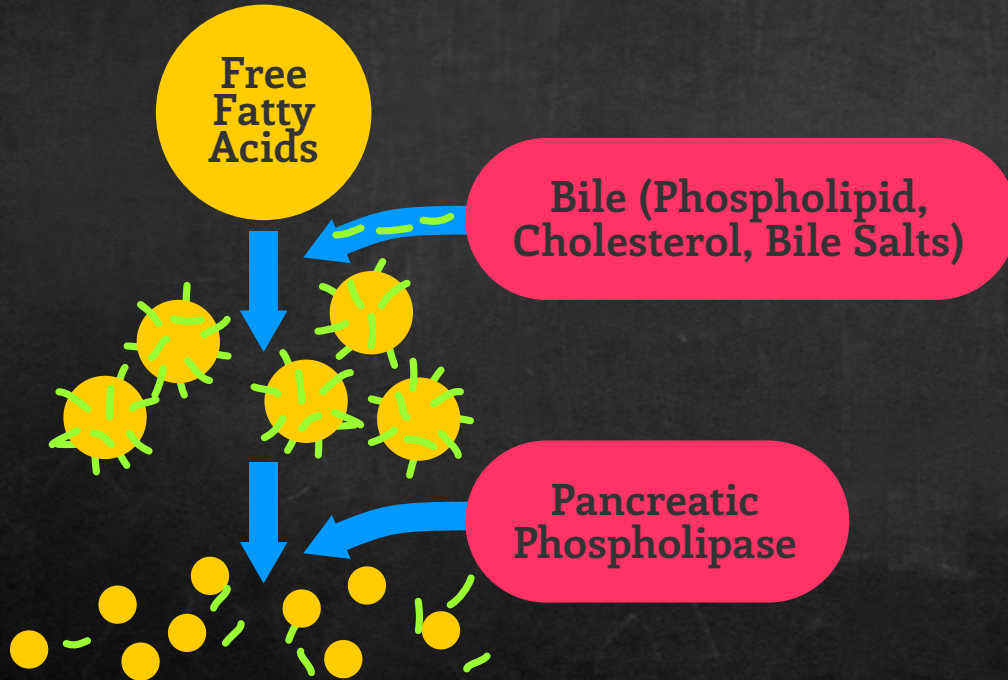




DIGESTIBILITY OF FATS IN DAIRY COWS

How are Lipids Digested in the Intestines of Dairy Cows?

Ruminants





DIGESTIBILITY OF FATS IN DAIRY COWS

How are Lipids Digested in the Intestines of Dairy Cows?

Adaptations of Ruminants to Enhance Lipid Digestion

- Pancreatic juice
 - ❑ Bicarbonate level is low
 - ❑ pH remains low
 - 8 – 8.5 until ileum
 - Most fat digestion in lower jejunum
- Pancreatic lipase
 - ❑ less active; about 1/4 of that of a pig
 - ❑ more resistant to acid condition



DIGESTIBILITY OF FATS IN DAIRY COWS

How are Lipids Digested in the Intestines of Dairy Cows?

Adaptations of Ruminants to Enhance Lipid Digestion

- Bile
 - high in phospholipids – especially PC
 - difference in taurine/glycine conjugates
 - 2.3/1 in ruminant (allows bile salts to function at a lower pH)
 - 1/3 in non-ruminants



DIGESTIBILITY OF FATS IN DAIRY COWS

How are Lipids Digested in the Intestines of Dairy Cows?

The Fatty Acid Forum sponsored by **VIRTUS**
NUTRITION™

