Carbohydrates digestive in non-ruminant

-begins with in the mouth (specific to non-ruminants and monogastrics)
-continues in small intestine with
-finished by intestinal

Carbohydrates digestive in ruminants

-saliva does not contain
-bacterial cellulase and hemicellulase are capable of breaking between CHO of cellulose and hemicellulose
-Limited starch digestion in the

Diet higher in fiber increases production

Which VFA is attributed to marveling :

propionate to Increase to increase = leads to

To increase energy you increase → increases → make you feel **full** and increases

END PRODUCTS OF CARBOHYDRATE DIGESTION

Non-ruminants : , mainly glucose
Ruminants: VFAs: + MONOSACCHARIDES

Carbohydrate Gelatinization

Add and makes swell and take up water

Structure changes from to to become more and and can help increase

Improves starch digestibility for rumen bacteria by

Steam flaking: adding and in corn

CARBOHYDRATE ABSORPTION

- Glucose absorbed via
- Once absorbed enters the and sent to the
- Stored as or used as
- Insulin regulates uptake cells of
- Glucagon regulates breakdown cells of

METABOLIC DISORDERS OF CARBOHYDRATE METABOLISM

Diabetes -

- Insulin produced by
- Type 1 - (juvenile diabetes)
- Type 2 - (adult onset)
    - insulin production
    - Decreased and reduced insulin

Gestational diabetes :

NUTRITION MANAGEMENT OF DIABETIC DOGS

- Consistent feeding plan and food that minimizes post prandial changes in
- Single most effective dietary changes is to include either insoluble or soluble at 8 to 18% DM basis
- loss program
- injection when > 75% of cells are destroyed

Metabolic disorders- KETOSIS

- In dairy cattle and sheep in late
- In early lactation milk production rapidly
- Cow is in energy balance - can't eat enough to meet energy demands for milk production (heavy glucose drain for lactose synthesis
- Begins to mobilize body tissues for (protein and fat)

KETOSIS:

- Because of high milk production, gluconeogenesis is vital for synthesis
- Acetyl Co A from body fat mobilization cannot enter cycle because of inadequate concentrations
- Acetyl co a converted into

Result of ketosis

- Excess of (acetone, acetoacetone, beta-hydroxybutyrate) accumulate in and
- Cow goes off feed and milk production dramatically
- Cows with advanced ketosis or those that die from ketosis have

- (7-30% fat in liver on wet basis)

Fat replaces functioning of liver

KETOSIS PREVENTION/TREATMENT

Maximize feed intake

- Don't during gestation
- Keep cows in condition not excessive
- Supplement
- common treatment compound