- **COMPARATIVE ANATOMY**

Base upon fod habits wildlife species can be categorized into 3 groups carnivore, omnivore and herbivorous. In addition, the categories of insectivorous and grasshopper are occasionally used in responses to the types of fod consumed by each groups characteristics digestive system are involved while a basic digestive system is common in both birds and mammals, various specialization or modification of digestive organic have developed especially in herbivores. Carnivorous have involved the most simple digestive system because their food is early digested. In mammals, the system digestive tract consist of oesophagus, stomach, small intestine and large intestine. In birds the basic that consist oesophagus, crop, proventiculus, gizzards, small and large intestine. In birds 3 types of crops have involved to different dietary selection. Carnivorous birds including insectivorous typically have only a temporary explanation of the oesophagus as a crop. A few carnivore are most leaves eating, birds have a false crop which is small and poorly developed.

Carnivorous birds have a true crop or permanent diversification. These allowed for storage of rapidly gathered food. During which some softening of the seeds by saliva occurs.

An apparent abnormalities in the evaluation of the vertebrates have been the feature to develop enzymes capable of breaking down cellulose.

Cellulose is one of the major channel constituents plants and one of large potential sources of energy for animals. As a result some species of animals have involved specialized digestive organs which allow for symbiotic between the animal and the micro organism.

Many species of herbivorous birds including some granuovores have developed a pair of caeca located at the function of small and large intestine. Each containing micro-organisms which continue the breakdown of CHO and proteins reaming after digestion in the proventiculus, gizzard and amll intestine. Micro organism digest cellulose and other CHO production VFA which are absorbed trough the wall of the caecum and aid in the bird energy supply.

These birds has the high rate of passage of food through the digest tract and although the food particle many stay in the caecum for several hours. It is doubtful that cellulose digestion can apparently add to

energy budget of the bird. As in bird, some mammals has also developed a large caecum and somewhat enlarge, large intestine allowing microbial digestion among those some rodents lagormpiles and equinozes, the caecum allows synthesis of bacteria protein and vitamins. The caecum content are high VFA and amino acid. The caecum absorbs water, non protein nitrogen and vitamins. Some smaller animals such as lagormorphs used comprophagy as a means of increasing digestive efficiency. The content of the caecum covered by a mucous internal are defecated and immediately re-ingested in the stomach. This involves the amount of amino acids and vitamins available to the host.

Other rodents such as flamster rat and golden hamstar have developed a preventive type of fore-stomach. Thus cardiac portion of the stomach harbor micro-organism that allows some microbial digestion to occur to chemical and enzymatic digestion.

- **FEEDING STRATEGIES**

There are many

Which influence habit…….. this because wild animal differ considerably in size and rumen anatomy. In term these differences influence animal metabolites rate and nutritional requirement, differences in the nutritive quality of grouse diet during wet and dry, winter and summer as well as inventive quality of the diet of the male and female during this wet season have been observed, the identification of such differences and their corresponding influence on diet selection has led to the investigation of wildlife feeding strategy.

The investigation of the feeding strategies involve the identification of the selected diet of a species or groups of animals. In nutritional basis as symptoms of these selection and the effect of the select on intra-specific and inter-specific relationship. FS has been investigated for various groups of wildlife including large herbivores and several groups of birds for example the feeding strategy of the Zebra in non-ruminant and 2 ruminant the Wildebeest and Thompsons Gazelle. Although the zebra have no rumen but they do have an enlarge caecum.

Microbial action in the organ improved the nutritive quality of the ingested food. Through the caecum because of its location is not as efficient in supplying nutrients from fibrous foods as the rumen. In

ruminants the opening between the reticulum and omasum (recticulo-omasa orifices) restrict passage of larger fibrous food parasites.

Before these material can travel in the omasum micro-organisms and the chewing action of the rumen must reduce ingested material to small fragments. Therefore the rate of passage of digested in the digestion in the ruminant is infactorial digested is by fibre content of food.

No such restrictions are imposed on digestive tract of the monogatstric such as zebra.

The zebra therefore is able to take large amount of poor quality fibrous food obtain easily digestive nutrient from this food, upgrade some of it in its large caecum and excrete the fibrous portion. Large amount of food passing through the digestive tract compensate for the low nutritive quality.

The Wildebeest is a large ruminant and has a large rumen in relation to body size then thus the smaller. Thompson Gazelle, bars of its large body size, the wildebeest has a low metabolic rate than the gazelle resulting in lower energy requirement per unit body weight. Thus, the wildebeest can utilize a power quality forage than the Thompson gazelle. Consequently, TG is more selective in its feeding habits. These differences have resulted in difference complimentary forage selection by the 3 species the zebra is the first spies to leave the short grass prairie because of food shortages. They move into less quantity of the coarse parts of the grasses and also move to other areas as the quantity of forage available is reduced.

The wildebeest utilized the lowland areas vacated by zebras eating the more nutritious lower plant parts exposed by the foraging of the area selecting the most nutritious forage exposed through the foraging of other 2 species. In this way, computation for food is not only minimized between the 3 species.

It is actually complimentary. The importance of the study of speeding strategy is exemplified in these relationship. If the property of some of these species is seriously impacted by some factor or disturbance. It should have a severe impact on other to species as well.

PLANT CHEMICAL COMPOSITION AND SAMPLING CONSIDERATION

- **PLANT CHEMICAL COMPOSITION**

Plant and animals contains similar types of chemical substances. The only difference been the relative amount of these substances in their composition. Water is a major constituents of plants although its proportion varies

considerable from 5 – 90% seeds and tubers been of these variability the other plant constituents are usefully expressed as a percentage of plant dry weight. CHO comprises of the majority of the plant dry matter.

The amount and type of CHO in a plant are major determinant of plant changeably plant matter is often divided into 2 groups.

This cell content and the cell wall CHO contain in the cell content consist probably of sugars, starch and soluble CHO these are almost completely digestible by animals and are major sources of energy. Cell walls are large composed of CHO, cellulose and hemacellulose, ECHLC along with varying amount of lignin and cutin. The relative amount of cellulose and hemicelulose and lignin inflammable the digestibility of a plant. Lignin forms a complex compounds with cellulose and hemicelluloses reducing the digestibility of these constituents by wildlife includinjg ruminant. The higher the lignin level the less digestible and the cellulose and hemicelluloses constituents. Many factors affect the relative amount of these CHO such as plant age, season and plant part. Plant lipids occur in the cell content and consist almost exclusive of fat. Plant fat content is generally low because energy is form of sugar and starches certain plant however do contain higher levels of fat e.g. seeds and some fruits plant protein also occur probably in the cell content, amino-acids and non protein nitrogen (NPN) are often considered along with protein in plant chemical analysis. Protein levels of plants are generally low less than 10% although considerable variation can occur. Plant are able to synthesis al their required vitamin which are present in the cell contents. The mineral or Ash content of plants as in animal is a small percentage of dry weight plant region various micro & trace elements and can also accumulate some in very high conc. High levels of some elements in plant such as selenium can pose a hazard to herbaceous animal.