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Department of agriculture- digestive system of a cow, koala and dingo Digestion comparison Koala The Koala is the only mammal, other than the Greater Glider and Ringtail Possum, which can survive on a diet of eucalyptus leaves. Gum leaves contain only about 50% water, very little nitrogen, large amounts of fibre and potentially toxic oils. Koalas are found to have molars premolars to physically break down the food. Plants contain cellulose, which can only be broken down to release cell contents after much crushing and grinding. Koalas use microorganisms that live symbolically in their digestive system to help them. The breakdown of cellulose occurs during a fermentation process in a specialised part in the digestive tract. These structures are found in either the fore-gut or the hind-gut of different parts of the digestive system. Cow A cow's diet is grass which is a quiet inactive process. The main nutrient in plant material is the complex carbohydrate cellulose, which must be broken down into smaller molecules before it can be absorbed. They have bottom incisors, top and bottom molars for chewing and grinding. A cow has a stomach with 4 chambers in due to cows requiring a complex digestive system. A cow digestive system must rely on the activity of microorganisms do this. These microorganisms are found in specialised fermentation chambers in the gut. The process is slow and efficient. Cellulose is difficult to digest making it difficult for the animal to access nutrients inside the cell. Dingoes A dingo's diet is very different to a cow and koalas diet. Dingoes are predators to rabbits, kangaroo's and rats. A dingo is a carnivore therefore it only eats meat. A dingo's digestive system is short and not as complex as an herbivores due to the fact that if they don't have to digest cellulose or consume large quantities of food because

meat has more energy than plants. Conclusion In conclusion a koala and cows digestive system is much more complex and long rather than a meat eater; dingo's digestive systems are fast and not at all complex.