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A Short Note Nutriment

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DESCRIPTION

Nutrition is the biochemical and physiological process by which an organism uses food to support its life. It includes ingestion, absorption, assimilation, biosynthesis, catabolism and excretion. The science that studies the physiological process of nutrition is called nutritional science organisms primarily provide themselves with carbon in one of two ways: autotrophy and heterotrophy. Combined with the source of energy, either light or chemical, there are four primary nutritional groups for organisms Nutrients are substances used by an organism to survive, grow, and reproduce. The seven major classes of relevant nutrients for animals are carbohydrates, dietary fiber, fats, proteins, minerals, vitamins, and water. Nutrients can be grouped as either macronutrients or micronutrients human nutrition deals with the provision of essential nutrients from food that are necessary to support human life and good health. In humans, poor nutrition can cause deficiency related diseases such as blindness, anemia, scurvy; preterm birth, stillbirth and cretinism, or nutrient excess health threatening conditions such as obesity and metabolic syndrome; and such common chronic systemic diseases as cardiovascular disease, diabetes, and osteoporosis. Undernutrition can lead to wasting in acute cases, and stunting of marasmus in chronic cases of malnutrition. Animal nutrition focuses on the dietary nutrient needs of animals, often in comparison to other organisms like plants. Carnivore and herbivore diets are contrasting, with basic nitrogen and carbon proportions varying for their particular foods. Many herbivores rely on bacterial fermentation to create digestible nutrients from indigestible plant cellulose, while obligate carnivores must eat animal meats to obtain certain vitamins or nutrients their bodies cannot otherwise synthesize. Animals generally have a higher requirement of energy in comparison to plants. Plant nutrition is the study of the chemical elements that are necessary for plant growth. There are several principles that apply to plant nutrition. Some elements are directly involved in plant metabolism. However, this principle does not account for the so-called beneficial elements, whose presence, while not required, has clear positive effects on plant growth. There are 16 essential plant soil nutrients, besides the three major elemental nutrients carbon and oxygen that are obtained by photosynthetic plants from carbon dioxide in the air, and hydrogen, which is obtained from water. Plants uptake essential elements from the soil through their roots and from the air through their leaves. Green plants obtain their carbohydrate supply from the carbon dioxide in the air by the process of photosynthesis. Carbon and oxygen are absorbed from the air, while other nutrients are absorbed from the soil. Nutrient uptake in the soil is achieved by action exchange, wherein root hairs pump hydrogen ions (H^+) into the soil through proton pumps. These hydrogen ions displace cations attached to negatively charged soil particles so that the cations are available for uptake by the root. In the leaves, stomata open to take in carbon dioxide and expel oxygen. The carbon dioxide molecules are used as the carbon

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source in photosynthesis. Although nitrogen is plentiful in the earth's atmosphere, very few plants can use this directly. Most plants, therefore, require nitrogen compounds to be present in the soil in which they grow. This is made possible by the fact that largely inert atmospheric nitrogen is changed in a nitrogen fixation process to biologically usable forms in the soil by bacteria.