

## **PLANTS: The Giver of Life**

The Earth is sometimes known as the green planet. Do you know why? If you look at Earth from space, you will notice that the Earth is more blue than green. There are also other planets in the solar system which are blue; for example, Uranus and Neptune are also blue in colour.

So why do we call our planet the green planet? The answer is simple. Earth has got plants in it and plants are green. No other planet has plants. Aristotle, the Greek philosopher, distinguished plants as living beings, which do not move, from animals which are often mobile and able to catch their food. Plants do not need to move because they generally make their own food. They make their food with a process called photosynthesis using chlorophyll which is green in colour. This is why plants are green.

Plants are the living entities that 'gave life' to this planet. Long time ago there was no oxygen on Earth. The plants of the Earth, through photosynthesis, produced oxygen on Earth. So you can say that plants actually 'gave life' to the Earth. You and I cannot be alive today without plants.

Plants also produce food. Plants take water and nutrients from the soil and carbon dioxide from the air to produce food for us to eat. Even the chickens we eat get their food from the plants. So, ultimately, if there are no plants on Earth, there will be no food on Earth either.

The study of plants by scientists is called botany (from ancient Greek word which means grass). A person who is engaged in the study of botany is called a botanist. A botanist can be involved in a wide range of scientific disciplines which includes structure of plants, growth of plants, reproduction and many more. A botanist also tries to identify edible, medicinal and poisonous plants.

There are around 2,000 plant species which are cultivated for food. This makes this subject one of the oldest branches of science. This is because all humans have to eat, and people needed to know which plant they could eat and which ones they could not. Some of the important scientists in the history of botany include Theophrastus, Ibn al-Baitar, Carl Linnaeus and Gregor Mendel.

Generally there are plants that grow in the wild and plants that are grown by humans. Agriculture, also called farming, is the growing of plants by humans. Most of the foods we eat are grown by humans. Some plants like cotton are also grown to make clothes.

There are many parts of the plant we can eat. A lot of plants grow from seeds. Seeds are high in nutrients which are needed for the plant to start growing. It is also for this reason why the majority of foods consumed by human beings are also seed-based foods. Edible seeds include cereals (maize, wheat, rice, etc.), legumes (beans, peas, lentils, etc.) and nuts (such as hazelnut, almond, etc.).

The other types of food from plants are fruits which are ripened ovaries of plants, including the seeds within, like the mango fruit with the seed inside. Many plants produce fruits that are attractive as a food for animals. This is so that the animals will eat the fruits and excrete the seeds at another place. This is how plants are able to 'move' from one place to another.

Finally, vegetables are another type of plant matter that is commonly eaten as food. They include root vegetables (potatoes and carrots), leaf vegetables (spinach and lettuce), bulbs (onion family), stem vegetables (bamboo shoots and asparagus), and inflorescence vegetables (globe artichokes and broccoli) and other vegetables such as cabbage or cauliflower.

Plants are also major sources of water we consume every day. For example, apples contain 85% water, bananas - 76%, broccoli - 91%, uncooked cabbage - 92%, uncooked carrots - 88% and so on. Plants are the best way to consume water, and a lot of water in fruits and vegetables also contain important nutrients for our body such as sodium and iron. We need iron to produce red blood cells in our body. Without blood, we will not be alive. This is because red blood cells carry oxygen to all parts of our body.

We also use plants in our daily lives. For instance, the paper you use is from plants. Paper is made from pulp which comes from wood. We also make a lot of the clothes we wear from cotton which is also derived from the plant. The wooden chair and table we sit on also come from plants. A lot of our houses are also built with wood.

Plants are also important to humans and animals because they are a good source of medicine. They can be insect repellent or an antiseptic when you fall down and bruise your knee. They can also help reduce fever, provide pain relief and many more. For example, the "Neem" has many traditional Ayurvedic uses in India, such as for the treatment of acne, fever, malaria, tuberculosis and others. This tree is so important in India that all people of India have their own language name for it. For instance, Neem in Bengali is called Nimgachh, in Gujarati - Leemdo, in Tamil - Vembu, in Punjabi - Nimb, in Oriya - Nimo, in Telegu - Vepa, in Kannada - Bevinmar, Kahibevu and so on. In fact in Malayalam it has many names such as Veppu, Aryaveppu, Aruveppu, Kaippan, Veppu and Vepa. Traditional societies place lots of importance on plants. This is why they give it many names.

The photosynthesis conducted by land plants is the ultimate source of energy and organic material on Earth. Plants are the primary producers in most land-based ecosystems such as the rainforest in Malaysia. They form the basis of the food web for all living creatures of Earth. Many animals need plants for shelter as well as oxygen and food. So life on Earth is possible without animals or humans, but it is not possible without plants.

Plant material is also used to feed the animals we grow for meat, milk and other products for humans. These animals are called livestock. Expansion of grazing land for livestock is a key factor in deforestation, especially in South America where about 70% of previously forested land in the Amazon is used as pasture and to feed crops. Each year, 99% of the animals killed in the United States die to be eaten. In the U.S. alone, over 10 billion animals are slaughtered for human consumption every year — more than 1 million birds, pigs, cows and other animals every hour. Therefore, for the betterment of our environment and the plant species of the world, we should eat more vegetables/fruits and less meat.

There is no doubt that plants are important to the survival of the Earth. They provide us with oxygen which we breathe, food which we eat, water which we drink, shelter from rain and sun, medicine when we are sick and even paper which we use to learn. It is important for us to understand and respect plants. It is important we protect plants from being destroyed for no good reason, for without it, we will not be able to continue living on Earth.