

Like animals, plants need food to survive. But unlike animals, plants can make its own food through photosynthesis.

During photosynthesis carbon dioxide from the air and water from the soil is synthesized to form carbohydrate. However to accomplish this task, it needs energy from the sun and help from a catalyst called chlorophyll. The process releases oxygen into the air. The food produced in the leaves is then circulated to the rest of the plant and stored for later use. This stored food is then used by the plant in much the same as animals do when they consume food. This process consumes oxygen and releases carbon dioxide in the air. Not all carbon that has been stored is released back to the atmosphere. Most of the carbon becomes part of the tree. Carbon is the chief component of all living things. Even though the plant releases Carbon dioxide to the environment a lot of the carbon is still trapped in the tissues of the plant thereby reducing green house gasses.

Carbohydrate comes from the root word "Carbo" meaning carbon and "hydrate" meaning to combine with water. So starch, sugars, and other forms of carbohydrates are all just hydrated carbon. If you do not have enough sunlight in your area, feeding your plant with carbohydrate like sugar dissolved in water will help the plant have vigor. For bonsai this is very essential since there will be times where you need it to recover under shade. Without sunlight the bonsai would just be relying on stored carbohydrates for healing. Dissolving a tea spoon of sugar per gallon of water will help a lot when you water your bonsai.