**UNIT II. FOOD CONSTITUENTS**

I. *Read the text and write out key words and word combinations.*

CARBOHYDRATES

1. The sugars, starches and cellulose are known as carbohydrates. These are composed of the chemical elements: carbon, hydrogen, and oxygen.

The term "sugar" to most people means cane or beet sugar, which is sucrose. However this is only the most common of the several sugars responsible for sweet taste of certain foods. Milk, fruit, vegetables are known to contain sugars other than sucrose. The different sugars in foods differ from each other, but all give the foods in which they are present a characteristic sweet taste.

2. Starch is carbohydrate more complex in nature than any Of the sugars,. Like sugar, it is built by the combination of carbon, hydrogen and oxygen. The production of sugar by the plant is likely to be an intermediate step in the manufacture of starch. The ability of the plant to build starch and the ability of the animal body to utilize it were known long before some of the processes involved in its synthesis and utilization were known. The plant by means of its chlorophyll, takes the carbon and oxygen from the air and, combining these with water brought through the roots from the soil, manufactures sugars. This sugar is dissolved in the juice of the plant and carried to all its parts as food. When the plant produces more sugar than is required for its immediate need the surplus is stored for future use. Whether the place of storage is seed, root, leaf or stem depends upon the plant. Usually the plant stores the carbohydrate as insoluble starch in the form of tiny grains or granules.

3. Although carbohydrates are mostly of vegetable origin, sugar is found in the blood streams of animals and of man. Provision is made in the cells of the liver for storage of animal starch (glycogen) sufficient to meet requirements of the human body for carbohydrates for a comparatively short time. The animal body, like the plant body, synthesizes this more complex substance from sugar and later hydrolyzes it to sugar as needed.

Cellulose is also a carbohydrate, containing the elements present in starch in the same proportion. Cellulose used in the diet is to give bulk and provide material for certain regulatory processes. Foods high in cellulose are bran, dried fruits and legumes, fruits with skins, seedy fruits, and leafy and coarse fibered vegetables.

4. The organic acids, found in a large number of foods are frequently considered together with carbohydrates. The utilization of organic acids in the body for energy proves to be similar to that of starches and sugars.

Organic acids also have a part in stimulating and regulating body processes. Fruits and vegetables are the best sources of organic acids. Citric and malic acids are examples of those commonly found in these foods.

Only a few foods consist of pure carbohydrate. A well-known example of these is sugar. A food is considered high or low in carbohydrate according to the amount it contains in proportion to its total solids. Foods high in carbohydrates are: cakes, candy, cereals and cereal products, dried fruits, honey, potatoes, sugar.

 *Post-text Exercises*

I. *Look at the following sentences and decide whether they* ***are true or false.***

1. The plant may produce more sugar than it needs. 2. The surplus of sugar is stored in different parts of the plant. 3. All carbohydrates are of vegetable origin. 4. Sugars and starches are digested rather quickly and supply energy for the body. 5. Cellulose is contained in bran, legumes, seedy fruits, leafy vegetables. 6. Organic acids are utilized in the body in a way, similar to starches and sugars do. 7. Organic acids are found in high proportion in cereal products. 8. There are a lot of products consisting of pure carbohydrate.

II. *What paragraph (1,2,3,4) contains the following information:*

1. The foods containing sugars are characterized as having sweet taste. 2. Starch is composed of carbon, hydrogen and oxygen.

II. *Describe the process by which the plant produces sugars.*

How does the plant produce sugars?

III. *Define the general idea of the text choosing one answer from the list below:*

1. To give the general idea of carbohydrates. 2. To inform readers about the foods containing carbohydrates. 3. A food is considered high or low in carbohydrate according to the amount it contains in proportion to its total solids. 4. The different sugars in foods differ from each other but all the foods in which they are present have a characteristic sweet taste.

V. *Match the words to make up word combinations from the text. Translate*

|  |  |
| --- | --- |
| chemical | taste |
| beet | starch |
| sweet | elements |
| intermediate | vegetables |
| insoluble | carbohydrates |
| tiny | grains |
| To meet | acids |
|  A comparatively | Short time |
| complex | example |
| fibered | substance |
| organic | sugar |
| A well-known | step |
| Low in | requirement |