

PLANTS - MANUFACTURING SUGAR

Nature's ability to manufacture carbohydrates allows us to not only live on Earth, but to eat well and stay healthy. Plants manufacture glucose through the process of photosynthesis. Then they use this glucose to make plant carbohydrates called sugar, starch and cellulose.

Carbohydrates are the primary source of energy for fruits, flowers, vegetables, grains, legumes and tubers, in fact all plants. Glucose is also the primary source of energy our body uses for muscular exertion and all body functions including digestion, assimilation, regulation of protein and fat metabolism. Carbohydrates provide immediately available calories for energy by producing heat in our bodies when carbon unites with oxygen in our bloodstream.

Glucose is also sought after by many creatures in the garden including visiting insects and birds. Just observe how aphids and other sucking insects tap into the glucose rich sap being transported through plant stems. And keep an eye on those birds waiting for the moment that the sugar content in fruit is just right—what we call ripeness—before settling in for a snack!



Bananas and pineapple and fruit

Carbohydrates, made of carbon, hydrogen and oxygen, are divided into two groups—Simple and Complex depending on their structure.

Sugars or saccharides, as they are also called, may be made with one, two, or many glucose molecules joined together, and this is reflected in their name.

1. Monosaccharides are simple sugars and include glucose, fructose, and galactose.
2. Disaccharide made of two glucose molecules include lactose, sucrose and maltose.
3. Polysaccharides are the complex carbohydrates and include starches and cellulose and are found in whole grains, peas, beans, starchy vegetables like potatoes, kumera, wheat, rice, corn and cereals.

Plant cells contain cellulose in their cell walls which keeps plants rigid. When cellulose is heated it softens and the plant begins to wilt. When cooked, the cells collapse releasing water and air. Cellulose, commonly found in fruit and vegetable skins, while mostly indigestible to humans, provides "fertilizer" for the good bugs in our gut and much of the bulk (fibre) necessary for intestinal action to aid in elimination.

All sugars and starches are converted by our digestive juices to a simple sugar called glucose. On reaching the blood, glucose becomes known as "blood sugar". Some of this blood sugar is used to fuel our brain, nervous system and muscles. And a small amount of glucose is converted to glycogen and stored

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in the liver and muscles. Any excess glucose is converted to fat and stored throughout your body as a reserve energy source. When fats reserves are reconverted to glucose and used for fuel, weight loss can result.

Sugars are often named for the food with which they are connected. For example, maltose is found in grain malt, fructose in fruit, inulin is found in onions, garlic and Jerusalem artichokes, while sucrose is the refined and processed remains of sugar beets or sugar cane. And that all important glucose is converted for use in the body from fruits and vegetables.



Miracle Plant

Organic growing actually starts in the kitchen, when we realise that our food chain begins with plants. Connecting the dots and understanding how nature's organically grown whole foods influence the state of our health can be the key we need to balance blood glucose levels in the body. Balancing blood sugar is also the key to avoiding the new epidemic "Dibesity"--the Obesity and Type 2 diabetes twins.

Type 2 diabetes is now so prevalent in children, our society doesn't even bother to call it "adult onset" anymore! Type 2 diabetes is insidious, developing slowly over time as high levels of sugar in the blood cause havoc, attacking cells, damaging vital organs, causing kidney failure and insulin resistance.

Historically diabetes was non-existent when people ate natural unprocessed foods like unrefined grains, legumes, vegetables, fruits, nuts and seeds. Today, processed and refined foods containing an abundance of empty calories, combined with a stress filled sedentary lifestyle, has contributed greatly to this new epidemic.

Once again we need to get back to basics and reinvent a new 21st century organic lifestyle that will not only provide families with nature's fresh grown complex carbohydrates, but also provide the exercise and stimulation our bodies so badly need. So look to your backyard and get growing!

Aromatic herbs, such as red sage, pineapple sage, lemon grass and lemon verbena are wonderful for making herb teas. Make sure you have a lemon tree—lemon juice when added to red coloured leaves or flowers used in teas, will strip out the colour giving you a beautiful pink tea. And growing Stevia will allow you to sweeten these health giving teas.

Introduce the family to home grown peas, asparagus, zucchini, tomatoes, beans and peppers. Try growing carrots and beets for really sweet treats. Plant apple, pear, plum, persimmon and peach trees for home picked fruit, and if you live in warmer areas try growing bananas, custard apples, and pepinos. With nature's help you can grow your own sugar snacks!

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