

Pressemitteilung

Deutsches Technikmuseum

Trebbiner Straße 9, 10963 Berlin

Presse-, Öffentlichkeitsarbeit und Marketing
Renate Förster

Tel +49(0)30/90 254 -142

Fax +49(0)30/90 254 -175

r.foerster@sdtb.de



12. November 2015

Sugars and Beyond! Food – Matter – Energy

Sugar is a lot more than just a sweetener: The Deutsches Technikmuseum opens a thematically expanded exhibition about sugars – a new home to the Zucker-Museum

Starting November 26, 2015

The question of what holds the world together at its core has been asked multiple times and received just as many different answers. The Deutsches Technikmuseum in its new 800 square metre permanent exhibition “Sugars and Beyond! Food – Matter – Energy” gives its own surprising answer: Our world is composed of sugar!

Sugar is in fact much more than just the well-known sweetener that is extracted from beets and canes. There are innumerable sugars besides table sugar, fruit sugar, grape sugar and milk sugar. Sugars are the most common biomolecules in the world; without them there would be no life. Sugars play a central role in realm of life. Sugars are stored energy from the sun. All plants are comprised of the sugar compound cellulose and store energy mainly in the form of starch. Insects and crustaceans owe the structural stability of their exoskeletons to the sugar molecule chitin. Sugars are the basis of specialized functions in the human body as well. Sugars have not only always served humans as food but have also been the source of basic materials and energy. The informational content of sugar compounds has opened up new avenues of research in medicine.

In addition to the traditional focus of the former Zucker-Museum (Sugar-Museum, 1904 to 2012 in Berlin-Wedding), which concentrated on the production, use and social history of cane and beet sugar, the newly opened exhibition sheds light on the topic of sugar from entirely new perspectives.

Journey of discovery into the multifaceted world of sugar

A 1.80 metre Japanese spider crab, large tree trunk slices, giant mushrooms and nearly 80 different sugars start off the journey of discovery into the multifaceted world of sugar. Cellulose, the main component of wood, is made up of many individual sugar molecules – the largest part of this biomass is therefore really sugar. Even the shells and protective coverings of insects, spiders or crustaceans consist of polymeric sugars. This exoskeleton is used in different ways by, for example, crickets, hissing cockroaches and Goliath bird eaters to make intriguing sounds. The media station “Creepy-Crawly Chorus” makes sugar, if you will, audible!

The classic sugar topic: From luxury good to everyday product

The exhibition sheds light on the exotic origins of the production of this luxury good produced exclusively from sugar cane and the slave economy that it spawned and chronicles the introduction of beet sugar in Europe. The different tools and machines being used illustrate the ways in which work in the fields changed – from physically strenuous manual labour to industrialized agriculture. Work tools for topping and pulling beets like a digging spade or beet scythe are displayed next to the corresponding parts of a modern harvester. The further processing of the sugar beet into crystallized table sugar in a sugar factory can be better understood by examining the varying samples produced during the different processing steps.

New perspective: Matter, energy and information

The range of interest extends from well-known materials like wood and textiles all the way to modern “bioplastics” that are not only biodegradable but are also produced from renewable resources. A 3D printer illustrates the possibilities that such materials represent.

Sugars can also serve as a replacement for petroleum in the energy field. What bioenergy sources like wood pellets, biogas, ethanol and even biodiesel have to do with sugar is spelled out in a way even the layman can understand.

The most important fuel in the human body is blood sugar, which is glucose dissolved in the blood. We normally satisfy this need for sugar with carbohydrates but our body can also produce it from other foods. A man-sized monitor installation with 13 X-ray-like animations reveals the way glucose is derived from food, how the sugar level in the body is regulated and how lists of ingredients and nutrition tables can be deciphered.

All the cells of our body have sugar chains attached to them. This “sugar coat” contains information that can also be read by pathogens. The synthetic production of complex sugar chains is an important step in researching and using the sugar code as the basis for new medications. The original prototype of a device that is in the meantime ready for series production is a prime example of topicality and a view of what the near future holds.

Time travel for the ears

Historical persons and living contemporaries can be heard explaining the role of sugar in their lives at 17 listening stations. Among them are the discoverer of sugar in beets, Andreas Sigismund Marggraf (1709 – 1782), and Franz Carl Achard (1753 – 1821), the “father of the sugar beet” as well as a female participant in the “Women’s Course” for factory chemists (1917). The owner of a sugar cane plantation at the beginning of the 17th century has his say as does the leader of the Haitian slave revolt of 1791. But modern materials scientists from the Max Planck Institute and the technical director of the biogas plant belonging to the Berlin public cleansing service (BSR) can be heard speaking as well.

Tradition and the future in three cabinets

The Sugar-Museum’s valuable silverware collection as well as a multiplicity of preparations from the historical teaching collection from the Institute for Sugar Industry are presented here in an engaging way. A third cabinet presents unusual bioreactors in which microorganisms produce biofuels from sugar.

Wedding-Berlin Roots

The Sugar-Museum was opened on 8 May 1904 in the Institute for Sugar Industry’s newly constructed building on Amrumer Straße 32. It mainly served as an educational collection. But the goal was also to collect and exhibit historically important objects from the sugar industry. At the end of 2012, the historic location of the Sugar-Museum in Berlin-Wedding was closed. Its tradition will be faithfully continued in the modernized and thematically expanded exhibition “Sugars and Beyond! Food – Matter – Energy” at the Deutsches Technikmuseum.

Sponsored by



We would like to thank the Fördererkreis Zucker-Museum e.V. for its many years of support.

Press photographs and further press materials can be downloaded in the press section of our website:

<http://www.sdtb.de/Deutsches-Technikmuseum.1435.0.html>