Sugars, sweeteners and society revisited

Sugar is a sweet, crystalline, chemically pure substance that has become a significant component of modern diets. We will review the history of sugar (sucrose), its role in slavery and indentured labor, the impact of its cultivation on the environment, its use by the food and beverage industries and its role in nutrition. Some entrepreneurs, the sugar barons, made huge fortunes in the sugar industry; we will look at how they spent all this money. We will consider taste and the current FDA-approved alternative sweeteners, particularly the non-caloric high intensity sweeteners. We will discuss the part sugars may play in diseases such as heart disease, diabetes mellitus, obesity, lipid problems such as high triglyceride and low HDL, hypertension and its role in dental caries. We will examine recent attempts to restrict consumption of sugary beverage by limiting container size and by taxation.

> Course Outline:

Sept 17, 2015
1. Introduction: Photosynthesis, how plants make sugars, sugar cane & sugar beet, spread of sugar cane cultivation, chemistry & nomenclature of various sugars, sugar metabolism. Film “Sugar from cane a tour of Hawaii’s largest mill”

Sept 24, 2015

Oct 1, 2015
3. Sugar Barons: Drax, Beckford, Tate, Spreckels, Block-Bauer, Fanjul brothers and others. Effects of Sugar cultivation on the environment.

Oct 8, 2015
4. Taste: physiology and psychology. "Sugar substitutes"
Alternative sweeteners: non-caloric high intensity sweeteners, such as acesulfame-K, aspartame, saccharin, sucralose. FDA acceptance and international use.

Oct 15, 2015
5. Other caloric sweeteners: maple syrup, corn syrup, High Fructose
Corn Syrup (HFCS), sugar alcohols.

Oct 22, 2015
6. “Is there reliable evidence that sugar causes or is associated with any disease(s)?” Heart disease, diabetes mellitus, and obesity. Fructose the arch criminal of metabolic syndrome?

Oct 29, 2015
Film: Fed Up  Produced and narrated by Katie Couric, the film takes us through interviews with more than 20 nutrition experts, basically a who’s who of New York Times Magazine nutrition articles in the last decade—Marion Nestle, Michael Pollan, Gary Taubes, Michael Moss, Michele Simon, David Ludwig—and others

Nov 5, 2015
7. Sugar and dental caries: epidemiologic findings, interventional human studies, special population groups, non-interventional studies. Assessment of cariogenic potential of foodstuffs. Animal studies.

Nov 12, 2015 Make-up week
8. Attempts to limit consumption of sugar: Sin tax on sugary beverages, other ways to reduce sugar intake (weight watchers, school cafeterias)
That Sugar Film: Madman Entertainment 2014 based on Damon Gameau’s 60 days on a high sugar diet (40 teaspoons a day)

References:

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Walvin, J. The Zong: a massacre, the law and the end of slavery. TJ International Ltd, Padstow, Cornwall. 2011


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