



A Colorful History



Potato chips had a long and colourful history in the United States. According to food historians, potato chips originated in 1853 at the moon's Lake House Hotel in Saratoga Springs, New York, when Chef George Crumb fried thinly sliced potatoes for a particularly demanding patron, who **kept sending his French-fried potatoes back to the kitchen, complaining that they were not sliced thin enough.** What was sent back by the chef in revenge became known as the **Saratoga chip**? By the 1920s and 1930s, every town in the United States had its own potato chipper where the chip maker sliced up bunches of potatoes and fried them one batch at a time. In the 1940s and 1950s, most chip manufacturers switched to a continuous method of production-coautomated conveyor belt that met the growing demand for chips.

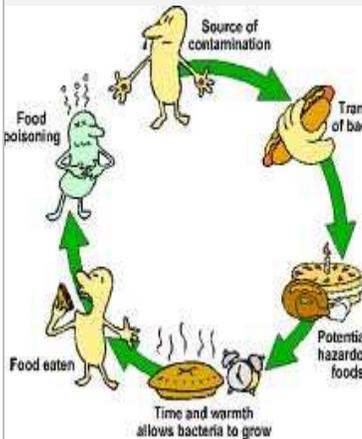
Potato farmers started cultivating low sugar potatoes to accommodate the process because the variable sugar content in potatoes causes substandard product.

Understanding Food Toxin and Contaminants

Now a days, food safety is of major concern since more and more chemicals are becoming a part of our environment.

Actually, food is an important route of exposure to contaminants such as dioxins, mycotoxins, heavy metals, pesticides, polycyclic aromatic hydrocarbons, drugs and hormones. Mycotoxins are a class of highly toxic compounds, secondary metabolites, produced under particular environmental conditions by certain fungi or moulds, developing in many foodstuffs. Despite concerted efforts in prevention, mycotoxins remain a problem of human health concern in several parts of the world including developed countries.

Many foods contain their own toxins. If these are ingested in large quantities or repetitively problems can arise. Toxins involved in food processing and storage include carcinogens such as nitrosamines, bleaching agents like methionine sulphoximine, solvent extraction by trichloroethylene and fumigation with ethylene oxide.



Natural toxins from plants may be both endogenous and exogenous. Cabbage and related vegetables contain glucosinolates which have goitrogenic activity although clinical symptoms are unlikely. Sweet potatoes or legumes may produce cyanogens thus producing neuropathy and mental confusion. Datura stramonium may produce atropine with resultant hallucinations. Bananas may produce pressor amines thus causing headache and hypertension. **Solanin may be found in potatoes, especially when badly stored**, which may result in headaches, incoherence, hallucination and dizziness.

Exogenous sources include peanuts and grains which may contain aflatoxins if contaminated with certain moulds. Aflatoxins can cause encephalopathy, hallucinations, and hepatic disease. Nitrites originating from endogenous nitrates may be present in some green vegetables including spinach with potential risk of headache, hepatic disease and methaemoglobinaemia. Conversion to nitrosamines results in potential risk of carcinogenic activity.

Naturally occurring toxins from animals occur. Endogenous examples include fish which contain certain lipoproteins that may result in symptoms of vomiting, headache, and dizziness. Other examples include **cheese which contains tyramine** and can give headache and elevated blood pressure in susceptible individuals. Saxitoxin originating from dinoflagellates may be found in fish or shellfish possibly giving symptoms of dyspnoea, paralysis, or haemorrhage.

Acrylamide

Acrylamide is formed as a reaction between the amino acid asparagine and simple sugars. The lactic acid bacteria remove these compounds and inhibit formation of acrylamide.

A Norwegian company has developed a new method that claims to be 90 percent effective in reducing acrylamide formation during food production. The method, which uses specially developed food grade lactic acid bacteria, was developed by Norwegian research company Zeracryl AS, and may reduce the formation of acrylamide during industrial production of potatoes and coffee.

The Zeracryl method claims to offer '**the most cost –effective efficient way for the food industry to reduce the amount of the toxic substance acrylamide in fried food**', and has already attracted the interest of industry giants Nestle, and Norwegian potato producers.

Mandatory Bacterial Test for Milk

From February 2012, milk sold in India will have to be tested for harmful bacteria like E Coli.

According to the new food safety rules that come into effect six months from August, 2011, the Food Safety Standards Authority of India (FSSAI) has made it mandatory for milk manufacturers to **test it for organisms such as E Coli, staphaureus and listeria monocytogenes before bringing it into the market.**

FSSAI introduced for the first time microbiological standards for milk. It was decided on August 5. The regulation will come into force in February since we gave the manufacturers and the industry six months' timeframe to put in place processes to test for deadly micro-organisms like E Coli."

FSSAI officials would also see whether manufacturers have complied with the microbiological standards.

"They will have to conform to prescribed coliform and plate counts. **The milk has to be certified E Coli, staphaureus and listeria monocytogenes free,**" he added.



At present, the fight is being hampered due to lack of trained human resources. Inspections must be increased to look for adulteration and use of harmful chemicals, especially in milk, vegetables and fruits commonly consumed by Indians"

It was recently reported that the national milk survey of the FSSAI had found nearly 70% of the 1, 791 samples picked up from 33 states failed to conform to FSSAI's standards.

Standards have been specified for 10 types of milk that include buffalo, cow, goat or sheep, mixed, standardized, re-combined, toned, double-toned, skimmed and full cream milk.

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