

## Artificial enhancement: making food look good, last longer

by Samantha Bandara

Have you ever stopped to consider that your day-to-day meals, particularly the packaged and processed food, contain varieties of added substances made of synthetic chemicals?

When you read the list of ingredients on the food labels and packages, you can see different substances named with 'INS' or 'E' numbers, some of them you may have never heard of or some names are hard to read. These substances are called 'Food additives'.

More than any other time in history, people are conscious about the food they consume - where it comes from and how it is produced. Unlike in the past, when our ancestors harvested their own food for consumption. Most food consumed today comes from unknown sources and the food value chain is increasingly becoming modernised along with development in science and technology.

With structural changes - population growth, urbanisation and globalisation - people's lifestyles and food habits have changed, accelerating demand for processed and convenient food. 'Food additives' play a key role in the food processing industry, making a variety of food available from every corner of the world. Since prehistoric times, people have used spices and salt as ingredients for food preservation.

### First patent

In Sri Lanka, traditional techniques such as soaking in honey, salting, pickling and smoking were used to preserve and prepare vegetables, fruits and meat by Veddahs, aborigines or indigenous people. The first patent for food additives was taken by the US in 1886 for a mixture of salt and calcium phosphate as a food condiment.

Are food additives essential? Over the past 50 years, food additives have revolutionised the food industry, moving with advanced technology to cater to the increasing demand for convenient, tasty and nutritious food increasing overall demand for food with population increase.

Thousands of food additives made of synthetic chemicals introduced by the US Food and Drug Administration (FDA) are now used by food industries all over the world. According to the book, *Staying Healthy Shopper's Guide: Feed Your Family Safely* by Elsom M. Haas, the food industry commonly uses these substances to:

- improve shelf life or storage time,
- make food convenient and easy to prepare,
- increase nutritional value,
- improve the flavour of foods,
- enhance the attractiveness of food products and improve consumer acceptance.

Food additives can be categorised based on the purpose of each additive. Generally speaking, there are six types of food additives - preservatives, nutritional additives, flavouring agents, colouring agents, texturising agents and miscellaneous additives.

Despite the multiple purposes of additives, there are emerging 'hard facts' with regard to the use of food additives, which raise concerns. One of the main concerns is the adverse reactions to food additives by people.

To run a safety analysis for a range of dosages, each additive is fed to an animal. Thereafter, the FDA recommends the 'safe dosage' of each chemical substance for human use. Many studies have found harmful effects of over-dosage of certain chemicals on animals.

For instance, Monosodium Glutamate (MSG - INS 621 or E 621) discovered by the Chinese and Japanese about 1,500 years ago, is used universally as a flavour enhancer. MSG is made up of two chemicals - sodium (salt) and glutamate. Glutamate or amino acid can also be found in natural food such as mushrooms and tomatoes.

It is said that 'MSG does not bring any nutritional value to the food, but stimulates taste buds by exciting the brain cells'. A study found that a large part of neurons in brains of infant mice can be destroyed by feeding large amounts of MSG. Research has also found other adverse effects of MSG on human health, including headache, facial pressure, chest pains, burning sensation, wheezing and difficulty of breathing - a collection of symptoms often called 'Chinese Restaurant Syndrome'. However, the use of this substance in food products in Sri Lanka is permitted under the regulation No. 1795/51 in the Food Act, No. 26 of 1980.

### MSG

Import of MSG into the country has seen an increase over the years. According to Customs data, Sri Lanka imported 1,772 tons of MSG worth Rs. 316 million in 2009 - these figures have increased to 2,740 tons of MSG valued at Rs. 499 million by 2013.

As in many other countries, Sri Lankan consumer movements have also raised their voices demanding that the authorities ban MSG, particularly in food preparations in school canteens. However, no policy decision has been



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taken yet.

Another area of concern is that food additives in general accelerate attention-deficit disorder (ADA), and attention-deficit hyperactivity disorder (ADHD). A study found that hyperactivity increased in 3-year-old and 8-9 year-old children who consumed juices containing artificial food colours and preservatives.

In addition, additives are likely to lead to increase asthma among children. What needs to be done? It is important for countries to carry out regular 'dietary exposure assessments' to examine the harmful effects of food additives on human health. The results of such assessments can be used to spread awareness among people.

It is well known that over-consumption of any food item can have an adverse effect. Likewise, eating food containing additives often and in large quantities may have health implications later in life. Therefore, it is advisable to avoid food that contains synthetic chemicals.

Moreover, it is difficult to point out whether the reactions to additives are mild or severe.

Therefore, those who suffer from allergies or food intolerance should carefully check the ingredients listed on labels.

As per the Food Act of 1980, proper labeling of food products is a must. However, listing the ingredients on labels is not adequate.

It is important to list the quantity of each ingredient used, along with nutrition information.

This will provide the information for consumers about each ingredient, to help balance their daily food intake.

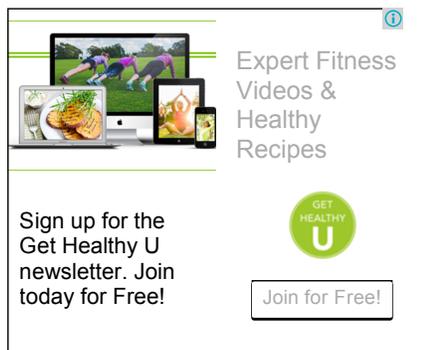
Another major issue is that packed or unpacked food items such as rice, kotthu, hoppers and thosai prepared by food vendors do not contain labels to state the type of ingredients (e.g. salt, sugar, and other additives) and the quantities used. As a result, consumers are unable to gauge the safety of such food.

In Sri Lanka, there are frequent media reports of unsafe and unhygienic food items being sold by vendors.

This means that the availability of policies or regulations is not adequate. While it is important to identify and take action against those who violate such regulations, a number of measures are needed to facilitate this process.

These include recruiting adequate staff by relevant authorities (e.g., Public Health staff), imposing high penalties within short periods in line with the law, providing adequate laboratory facilities for testing, essential for the proper implementation of regulations to ensure safety of food we consume.

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