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Technical Applications (Nanotechnology) in the Fields of Food Industry

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Short Communication

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Short Communication

It represents the issue of food security a fundamental problem in light of the steady population increase. To achieve food security, sophisticated and well thought out agricultural development using all modern technologies, particularly those related to food and nutrition. Many studies have pointed out that food production in Third World countries will be affected by many variables during the next twenty years, due to the water problems of the energy crisis and high prices and environmental changes. Specialists have resorted to the use of modern technologies, including nanotechnology to work to provide those needs. It is hoped that these technologies contribute to increase food production on a global level, which is expected in 2040 that the intervention of nanotechnology in most food production as they do not affect the chemical ingredients or the taste or texture of food and applications of nanotechnology in the food industry, nano-capsules (Nanocapsules) and nanoparticles (Nanoparticles) used to enhance food flavor and to address the different plant steroids and to remove chemicals and pathogens in food.

Nanotechnology has also become widely used and in the manufacture, packaging, food packaging. It is anticipated the use of nanotechnology in about 50% of the total food industry by the year 2018. IT has been described nano-industrial revolution in this technology to secure market share and made the US this technique as it was to invest in this area of $ 3.7 billion, followed by Japan and the European Union through the National Nanotechnology, said that the potential benefits of foods produced using surprising nanotechnology; these technical much longer, improve nutrition, packaging and packaging and safety, enhance food flavors, and functional foods will be charged any foods and dietary supplements leads to an increase in production and reducing the cost. Valrf of production alone is adequate to ensure food subsidies for the world.

According to the definition in a report issued for (Nanotechnology in Agriculture and Food) Vgmae nano-food uses the nano-particles, and nanotechnology techniques through agriculture and production and processing, as well as filling and food packaging. This does not mean its genetically modified food, or food produced by nanotechnology machines. The production of good and smart bombs may prolong the period of validity of food an important goal for many companies involved in the production of packaging materials for food products as promised. These packages and features to limit the impact of changes in humidity and temperature of the external environment surrounding the food Balabboh content on those devices through the existing micro pores, as those devices that can clearly show the possibility of food contamination to the consumer.

A nanotechnology can contribute to the development of the properties of a counter for the growth of bacteria and fungi on the surface of the containers to be more effective in preventing the spread of these microbes in food, in addition to increasing the sensitivity of those surfaces of any biochemical changes occur in the food item and expressed clearly. There are currently between 400-500 nanometer product Packaging traded food materials in the global market, and it is hoped the use of nanotechnology in the production of about 50% of the total packaging materials on a commercial scale over the next two decades. And it can be classified as

nanotechnology applications in the production of Food Packaging: materials according to their uses are as follows

A - Ordinary Wrappers Manufacturing

These can be used in meat wrappers nanoparticles and often, vegetables and fruits, sweets and pastries and fast food packaging. These casings and characterized by mechanical and functional properties of a good enabling them to prevent the exchange of moisture and gases with the outside center and affecting the distribution of colored materials and materials flavor and antioxidants, enzymes, anti-brown discoloration process

B- Preserving Packaging Manufacturing

This package can be fired casings some nanoparticles chemicals inside the containers, such as materials for anti-microbial growth and antioxidants and colorings and food Madam at within the food or beverage so as to prolong shelf life or improve the flavor, color or nutritional value period. As has been the development of nano-food containers can absorb any flavors or odors undesirable arise within food packages. As has been the production of food containers containing carbon nanotubes can inject carbon dioxide or oxygen gases to the outside of food packaging in the case of damaging them Studies and Research, which has in the field of micro-technology applications in Food Packaging refers to the many advantages that will impact positively on this vital sector when the application including limited to:

A- Reduce Waste and Reduce the Costs of Transporting Food

It conducted a French company Danone food and beverage study to produce a strong plastic casings using nanotechnology to reduce the losses of those foods. The study showed that the use of Nano materials has led to a clear and noticeable improvement in the mechanical properties of the membranes produced, in addition to a marked improvement in their ability to control the gas exchange between the container and the surrounding environment, and as a result was to obtain a product with a high degree efficiency when used for packaging food. This resulted in a reduction in the amount needed to mobilize the necessary raw materials and reduce manufacturing energy and reduce the transfer of food expenses.

B- Enhancing Food Safety

Was developed intelligent ink contains nanoparticles sensitive to oxygen and very sensitive to optical radiation if exposed to ultraviolet light, the ink changes color in the case of running out of oxygen inside the packaging of food color is changing rapidly and therefore consumer warning corruption Article.