

Farmer's Health Thro' Functional Foods

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ABSTRACT

Agriculture plays an important role in the making and development of India. It can also be true with many other countries as also. In India, it is a primary source of living for more than about 60% of population. The agriculture-related issues always hinder the development of a country. The enhancement of traditional agriculture methods and its modernization towards smart agriculture is the solution for solving agriculture problems. Considering this issue, a framework is presented for smart agriculture using sensor network. The key features of this system are the deployment of smart sensors for the collection of data, cloud-based analysis, and decision based on monitoring for spraying and weeding. The smart farming approach provides valuable collection of data, high precision control, and automated monitoring approach. The proposed system presents smart agriculture monitoring system that collects and monitors the soil moisture, environmental temperature, and humidity. The measured soil moisture, temperature and humidity are stored in Thing Speak cloud for analysis.

Keywords: Traditional agriculture; Smart agriculture; Nutrition; Bio-pesticides

INTRODUCTION

The factors affecting are change of climate, tumble levels of water, accidental rainfall, imprudent utilize of bio-pesticides, etc., and the intensity of agricultural manufacturing is diminishing in India. The majority of farmers do not attain awaited crop yield for a variety of grounds. To acknowledge manufacturing intensity, yield manufacturing is carried out which requires forecasting the yield of the crop relied on the existing information. Formerly, crop production estimations were based on farmer's certain crops and experience of cultivation. Farmers also can get additional income from wine making from pineapple, Mango, Jamun, jackfruit, pomegranate.

Agriculture gives us most foods known as functional foods like, Flaxseeds, Garlic, Ginger, Tomatoes, Green Tea, spices and so on. What makes a "functional food," however, is its potential ability to positively affect health. Role of diet is to provide sufficient nutrients to meet the nutritional requirements of an individual. There is now increasing scientific evidence to support the hypothesis that some foods and food components have beneficial physiological and psychological effects over and above the provision of the basic nutrients. Today, nutrition science has moved on from the classical concepts of avoiding nutrient deficiencies and basic nutritional adequacy to the

concept of "positive" or "optimal" nutrition. The research focus has shifted more to the identification of biologically active components in foods that have the potential to optimise physical and mental wellbeing and which may also reduce the risk of disease. Many traditional food products including fruits, vegetables, soya, whole grains and milk have been found to contain components with potential health benefits. In addition to these foods, new foods are being developed to enhance or incorporate these beneficial components for their health benefits or desirable physiological effects. Functional foods range from fruits, vegetables and whole grains, which are naturally high in phytochemicals, to products in which a specific ingredient is added, removed, increased, or decreased. Examples of functional foods include soy, oats, flaxseed, grape juice, broccoli and other cruciferous vegetables, phytosterol/stanol-enriched margarine, eggs enhanced with omega-3 fatty acids, foods fortified with herbal preparations, and psyllium. Functional foods may be categorized as whole foods, enriched foods, fortified foods, or enhanced foods. There is much greater recognition today that people can help themselves and their families to reduce the risk of illness and disease and to maintain their state of health and wellbeing through a healthy lifestyle, including the diet. On going support for the important role of foods such as fruits and vegetables and wholegrain cereals in

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disease prevention and the latest research on dietary antioxidants and combinations of protective substances in plants has helped to provide the impetus for further developments in the functional food market. In 1991, the concept of Foods for Specified Health Use (FOSHU) was established, in Japan. Foods identified as FOSHU must be approved by the Minister of Health and Welfare after the submission of comprehensive science-based evidence to support the claim for the foods when they are consumed as part of an ordinary diet. In Sweden, a number of initiatives have been taken in order to facilitate the use of health claims, including the adoption of guidelines and codes of practice in the various Member States of the EU, including Sweden, The Netherlands and UK, the latter with the Joint Health Claims Initiative (JHCI). In most of these countries, a partnership of industry experts, enforcement authorities, consumer groups and scientists have been involved in drawing up the rules for the scientific justification, communication and presentation of health claims. USFDA announced that claims can also be based on "authoritative statements" of a Federal Scientific Body, such as the National Institutes of Health and Centres for Disease Control and Prevention, as well as from the National Academy of Sciences. Codex Alimentarius has a joint programme with UN Organisation for Food and Agriculture (FAO) and Health (WHO), for setting food standards. It gains authority from its role in world trade, since countries that are developing new legislation as the basis for that legislation often use Codex standards [1-3].

Foods with beneficial live cultures as a result of fermentation or that has been added to improve intestinal microbial balance are Probiotics. Prebiotics are non-digestible component that has beneficial effects by stimulating the growth of bacteria in the colon. Examples include inulin and oligofructose.

There is a difference between the Western and Eastern perspective on functional foods. In the West, functional foods are considered revolutionary and represent a rapidly growing segment of the food industry. Food and pharmaceutical companies alike are competing to bring functional foods into the mass market. On the other hand, functional foods have been a part of Eastern cultures for centuries. Foods were used for medicinal purposes in traditional Chinese medicine as early as 1000 B.C.E. From ancient times, the Chinese have used foods for both preventive and therapeutic health effects, a view that is now being increasingly recognized around the world [4-7].

For many elderly population in many countries, dementia becomes a momentous public health problem. Food and beverages naturally rich in some of the substances featured in products like coconuts and those fortified with a few vitamins and minerals like ingredients, will grow in popularity. Human brain is an organ like any other organs in the body and gets deteriorated as the body ages. Alzheimer's, is a disease rather than a normal part of aging in this elderly population. Plaques consisting of starch-like amyloid protein build up in the brain, causing nerve cells to malfunction and sometimes may die off.

This can results in sudden reduction of memory capacity and cognitive functioning. For instance, a study published few years ago in the Journal of Alzheimer's Disease suggested that DHA omega 3 and vitamin D3 helped to optimize the immune system's amyloid plaque clearance rate. Omega 3 and vitamin D fortified food products are already popular and a strengthening of the brain health connection will only add traction. Coconuts and products made from coconut are finally gaining in popularity, after having long been avoided by health-conscious people due to their naturally high saturated fat content [8-10].

CONCLUSION

In recent years, however, research has come to the conclusion that not all saturated fatty acids are created equal, and that some types are actually conducive to health, offering benefits to the cardiovascular system, and, as it now transpires, cognitive functioning. Another study, carried out by Oxford University, showed that the oil contained in coconuts seems to have at least temporary effect on restoring the memories of people affected by Alzheimer's disease. Thus Agriculture and health of a people due to Functional Foods plays important role in the Financial Health of a Farmer and in turn Economy of a Nation.

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