

Future Aspects of Organic Foods Which Enhance the Human Health Status

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Abstract:

“Organic” or “Organically grown” foods are generally known as ‘food grown without pesticides; grown without artificial fertilizers; grown in soil whose mineral content is increased by the additions of organic matter with applications of natural mineral fertilizers; has not been treated with preservatives, hormones, antibiotics etc. The market for organic food products is increasing steadily worldwide. Such organic foods meet certified standards for its health value. Most notably, the healthier properties of organic food, the use of synthetic fertilizers, pesticides, and genetic modification is not allowed. The popularity and its demand for its production and consumption have increasing day by day. Long term consumer preferences are needed to determine for organic diet as a healthier. The positive impacts obtained from organic foods include prevention of heart disease, cancer, vision problems, premature aging, and cognitive malfunction. The scientific evidence for compositional differences and health benefits of organic compared with conventionally grown food products. Studies indicate some differences in favor of organic food, including indications of beneficial health effects. Organic foods convey lower pesticide residue and higher content of bioactive compounds are seems to contribute to maintaining an optimum health status and lower risk of developing chronic diseases. To uptake the organic food in human diet rather than inorganic food which is heavily resemble to the lots of condition of healthy people and their lifestyle with the use of pesticides in the conventional area of agriculture which is near about organic food.

Key Words: Organic food, conventional food, lifestyle, health status, bioactive compounds, nutritional value.

INTRODUCTION

Organic food produced by Standardized methods that comply with the organic farming. Organic farming a type of agricultural cultivation practices that cycle resources, promote ecological balance and conserve bio-diversity (Rigveda I 161, Atharva veda II 8.3). It has also mentioned that Organization regulating organic products may restrict the use of certain pesticide and fertilizers in farming methods used to produce such products. Organic food typically is not processed using irradiation, industrial solvents or synthetic food additives (Rao Bahadur, 1937). However, organic movement in India owes its origin primarily to the work demand for organic food is primarily driven by consumer concern for personal health and environment (Albert Howard, 1940). The seeds of organic movement planning a great emphasis that use of organic sources of plant nutrients to the total exclusion of chemical fertilizers (Chhonkar, 2003). From the perspectives of science and consumers there is insufficient evidence in the

scientific and medical literature to support claim that organic food is either safer or healthier to eat than conventional food. There is a little scientific evidence of benefit or harm to human health from of die thigh in organic food, and conducting any sort of rigorous experiment on the subject is very difficult. American academy of pediatrics reviewed the literature on organic food in 2001, they found that “current evidence does not support any meaning full nutritional benefits or deficits from eating organic compared with conventionally growing foods, and there are no well-powered human studies that directly demonstrate health benefits or disease protection as a result of consuming an organic diet”. Studies also have not demonstrated any detrimental disease-promoting effects from an organic diet. Although organic foods regularly command a significant price premium, well- designed farming studies demonstrate that cost can be competitive and yields comparable to those conventional farming techniques. In short, organic farming can be term as sustainable use of land that with no involvement of synthetic fertilizers and chemical pesticides as well as systematically enhancing the agro-ecological system.

Types of organic foods: Organic farming is the best and the most viable alternative for traditional farming techniques. Organic agriculture has long being the prominent part of agriculture farming without the use of synthetic substances. The main advantages are that it is safer, healthier and usually chemical-free. And there is not permitted as artificial substances such as pesticides, herbicides, and genetically modified organism (GMOs). Due to the toxic elements are reduced so that its produce is healthier. Organic products grown in healthier nutrient-rich soil and may taste superior than their conventional foods.

Organic vegetables and fruits: The organic vegetables and fruits are the common organic foods that are available in the market and they are rich in superior quality. And certified organic plant remained free of chemical application of fertilizers and pesticides for at least three years, and must follow regulations set by AVA.

Organic meat: This meat is perfect for human being which most of lovers. It is good for health and does not contain any harmful chemicals as the animal are fed with natural food. They found in wide variety in the market. The animas are raised without giving any antibiotics, and growth stimulants. Here the animals are fed with 100% organic foods and grazed in the organic pastures.

Organic dairy products: Organic dairy products are good for health and safe and healthy to consume by infants and children. And can get all the essential vitamins whose consume these foods. The organic dairy products are becoming popular these days. Milk for all dairy animals such as cows, goats and sheep may be certified as organic. Certified organic products cover nearly the full dairy spectrum including milk, cheese, yogurt, butter, cottage cheese, sour cream, ice cream etc.

Organic Fish: The fishes are rared in the hygienic conditions in termed as organic fish. Generally the fishes that are caught in the open sea cannot be labeled as organic due to the fact that it is uncertain of what the fishes eat.

Health benefits of organic foods: The organic food industry is a booming business and some consumers buy organic because they believe it’s better for the environment and for health related reasons, according to one 2016 survey. Organic foods refers to food products that are produced, prepared and processed without the use of any chemicals, pesticides, fertilizers, or chemical preservatives. A greater portion of a population wants to know its benefits so that the demands

are increasing. Asome health benefits of eating organic foods over the past decade which is given below:

- 1) **Better overall health:**The use of natural techniques such as green manure to fertilize the lands and crop rotation in pest and disease control work absolutely well in producing safer, healthier, and smellier final food products. Healthy food stuff means healthy people and better nourishment for a better living for both people and animals.
- 2) **Antioxidant content:** Organic foods are free of foreign chemicals and nutritionally advantageous antioxidant content and limited exposure to heavy metals.
- 3) **Improved Heart condition:** Animal products content CLA (conjugated linoleic acid) and high quality protein. CLA is a heart-healthy fatty acid and present in higher amount in the meat and milk products which maintained the cardiovascular function from our body and protect it.
- 4) **Antibiotic resistance:**Organically raised animals are not given antibiotics, growth hormones, fed animal by products or vaccines so that help to keep them healthy.
- 5) **Better taste:** Organic food products are tasty, the reason of its use of natural and environmentally friendly agricultural production techniques. It is revealed that the taste of organic vegetables and fruits are of higher quality compared to those that are conventionally grown.
- 6) **Pesticide cutback:** Organic foods are free of pesticides and that is why they are better for human and children for maintaining health status. Chemical pesticides consumption creates number of diseases and disorders namely cancers, digestive dysfunctions, headaches, ADHD, birth defects, weakened immune system, and even premature death.
- 7) **Stronger immune system:** By eating regular organic foods in a diet strengthen the immune system of our body because organic foods have a quality based and content richer amount of vitamin and mineral which helps to overall immune system.
- 8) **Organic foods is GMO-free:** Organic products are free of contamination with health harming chemical substances. GMO is a Genetically Modified Organisms or Genetically Engineered (GE) foods are plants based whose DNA has been altered. And commonly resistance to pesticides or produce an insecticides.
- 9) **Consumption of highly nutritious food products:** Organic food products such as organic milk, organic fish, and organic poultry content very high nutritional content and does not content modified ingredients as compared to conventional agricultural food products. Due to the vitamin and mineral contents, the crop access soil nutrients and it is suitable for health condition.

- 10) Environmental safety:** Organic farming practices tends to be better for the environment and make certain safer and healthier environment. Organic farming lessens the long term human health implications caused by air, water and soil pollution.
- 11) Lessened chances of food borne illness:** Organic farms encourage a greater abundance and diversity of insects and soil microbes. This diversification reduces the chances of foodborne pathogens in the soil and on fresh produce.
- 12) Consumption of higher quality meat and milk:**Results of 2016 European study revealed that organic milk is proved to have 60% more omega-3 fatty acids, antioxidants, vitamins and CLA (conjugated linoleic acid), where up to 50 % richer in organic meat which results in the betterquality consumption.
- 13) Lower levels of toxic metals:** New studies revealed that organic crops have 48% lower levels of toxic metals than conventional crops. Significantly organic foods content lower pesticides residues and less contamination by toxic metals such as cadmium.

Future prospects and conclusion:

Organic foods have become a popular choice and healthy alternatives for babies and toddlers because its high nutritional value affect their healthy growth, development and eating habits throughout their life. Organic farming also better choice for environment safety and also helps conserve water, reduce soil erosion, and uses less energy. A numerous future business opportunities as time are changing among the Indian population. The consumers started to growing demand of healthier organic products. Due to digital literacy rate and great awareness of organic farming methods, makes the food more healthy and nutritious and also changed the diet modification and lifestyle of human beings. In recent the government of India is promoting organic farming practices in the country. Hon'ble Prime Minister, Mr. Narendra Modi introduced Paramparagat Krishi Vikas Yojana (PKVY), under which 2 lakh hectares has been made suitable for organic farming thereby benefiting 5 lakh farmers. This step will further boost organic farming practices in India in 2019. In short, organic farming is advantageous as compared to conventional farming and it not only promises higher yield but also ensures security of higher yield, chances of less dependency on external input and thus making poor households less prone to day to day crises. The only disadvantage of organic farming is that it is costlier in comparison to conventional farming methods.

Method and Material

samples of rice from the crops were picked and threshed to remove the peels. The seed samples were kept at a temperature of 25°C and a relative humidity of approximately 85% in an air-conditioned laboratory overnight to attain temperature equilibrium of the seeds before measurement. The samples of these crop were analyzed for their proximate composition. All the work pertaining to this investigation was done in the laboratories of NIRS in the directorate of research ,C.S.Azad University of Agriculture & Technology, Kanpur (U.P.) The grain seeds were collected from legume section of Azad university of Agriculture & Technology, Kanpur. After cleaning and griding the seed samples were determined using NIRS-2500. For analysis we should used three replication for each sample and used the average value for the spectrum calibration. We take 130 gm samples

to analyze the sample it works from 400-2500nm wavelength.

Result and Discussion

According to Table-1 we evaluated the organic variety of rice such as Shyam jeera and pusa basmati. Among both of them its colour,texture, size and its protein content. Shyam jeera has whitey colour, smooth texture and large in size, it has 11.58% protein. The Pusa Basmati variety has dark whitey colour, slightly smooth, large in size and protein content is 11.08% among both of them Shyam Jeera is superior variety of organic rice.

Table : To analyze the organic variety parameter of rice.

S.No.	Name of crop	Name of variety	Colour	Texture	size	Protein(%)
1.	Organic rice	Shyam Jeera	Whitey	Smooth	Large than normal	11.58
2.	Organic rice	Pusa Basmati	Dark Whitey	Slightly smooth	Large	11.08

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References:

- 1) A.W. Chassy, L. Bui, E.N.C. Renaud, M. Van Horn, A.E. Mitchell (2006), three-year comparison of the content of antioxidant microconstituents and several quality characteristics in organic and conventionally managed tomatoes and bell peppers *J. Agric. Food Chem.*, 54, pp. 8244-8252 CrossRefView Record in ScopusGoogle Scholar
- 2)
- 3) C. Caris-eyrat, M.J. Amiot, V. Tyssandier, D. Grasselly, M. Buret, M. Mikolajczak (2004), Influence of organic versus conventional agricultural practice on the antioxidant microconstituent content of tomatoes and derived purees: consequences on antioxidant plasma status in humans. *J. Agric. Food Chem.*, 52, pp. 6503-6509 View Record in ScopusGoogle Scholar
- 4) D.M. Barrett, C. Weakley, J.V. Diaz, M. Watnik (2007), Qualitative and nutritional differences in processing tomatoes grown under commercially organic and conventional production systems *J. Food Sci.*, 72, pp. 441-450 View Record in ScopusGoogle Scholar.
- 5) M. Wier, L.M. Anderson (2003), demand for organic foods- attitudes, values and purchasing behaviors, *Newslett. Danish Res. Center Farm.*, pp. 1-3 View Record in ScopusGoogle Scholar
- 6) M.-F. Chen (2007), consumer attitudes and purchase intentions in relation to organic foods in Taiwan: moderating effects of food-related personality traits. *Food Qual. Prefer.*, pp. 1008-1021 View Record in ScopusGoogle Scholar.
- 7) M. Kristensen, L.F., U. Halekoh, H. Jørgensen, Ch. Lauridsen, K. Brandt, S. Bügel (2008), Effect of plant cultivation methods on content of major and trace elements in foodstuffs and retention in rats *J. Sci. Food Agric.*, 88, pp. 2161-2172 CrossRefView Record in ScopusGoogle Scholar.
- 8) M. Carbonaro, M. Mattera, S. Nicoli, P. Bergamo, M. Cappelloni (2002), Modulation of antioxidant compounds in organic vs. conventional fruit (peach, *Prunus persica* L., and pear, *Pyrus communis* L.) *J. Agric. Food Chem* 50, pp. 5458-5462 View Record in ScopusGoogle Scholar
- 9) S. Zakowska-Biemans June 18–20 (2008), Consumers values and motives regarding organic food products in Poland Proceedings of the 2nd Scientific Conference of the International Society of Organic Agriculture Research ISOFAR, vol. 2, Modena, Italy, , pp. 506-509 View Record in ScopusGoogle Scholar
- 10) K. Woese, D. Lange, C. Boess, K.W. Bogl (1997), a comparison of organically and conventionally grown foods—results of a review of the relevant literature *J. Sci. Food Agric.*, 74 pp. 281-293 View Record in ScopusGoogle Scholar
- 11) V. Worthington (2001) Nutritional quality of organic versus conventional fruits, vegetables, and grains *J. Altern. Complement. Med.*, pp. 161-173 CrossRefView Record in ScopusGoogle Scholar