

OVERVIEW OF ORGANIC FARMING AND ORGANIC FOOD

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Abstract

Foods quality & protection are 2 significant aspects that gotten a lot of coverage from the general public. Pesticide residue, heavy metals hormones nitrate, genetically modified and antibiotic residue crops all contribute to the negative health effects of conventionally produced foods. Furthermore, conservatively grown food are fewer nutrient-dense and have less antioxidants. This paper gives all details about all details about organic farming, organic food, benefit and disadvantage of organic farming, difference between organic and local food etc. Organic farming and organic food commonly increasing in day to day life. This largely attributed to recent agricultural studies. It has provided farmers with new steps to increase yield while eliminate use of bypass method. Novel methods are developed solely to improve soil quality in organic farming and organic food production. Apart from that factors, the discoveries of a slew of new disease linked to non-natural fruit and vegetable cultivation has evidently shifted people's minds toward organic farming.

Key words: Agriculture, Farming, Farmer, Food, Organic.

Introduction

Foods quality and protection are 2 critical considerations that have attracted widespread interest. Growing environmental consciousness, as well as a number of health dangers (such as bacterial contamination dioxins, and bovine spongiform encephalopathy), have eroded consumers' confidence in foods safety in recent decade. Intensive organic farming has the potential to contaminate the food supply. Food safety and quality are two important factors that have sparked widespread interest. Consumer confidence in food safety has eroded in recent decades as a result of rising environmental awareness and a number of health risks (such as bacterial contamination bovine spongiform encephalopathy, dioxins). Chemical cultivation on a large scale has the ability to contaminate the food chain. Northbourne invented the word "organic" in his book "Look to the Land," published in 1940. According's to Northbourne, " farms itself have biological wholeness; it must livings entity; it must unit with a healthy ecological presence inside itself." Organic farming is also described as "ecological productions management method which encourage and improves biological cycles, soil biological activity, and biodiversity, ," according to Northbourne. 'This is focused on limited usage of off-farm management and on inputs strategies that preserve, sustain, and improve ecological equilibrium,' according to Winter and Davis (2006). Organic produce is produced without the use of synthetic pesticides, toxins, growth hormones, genetic engineering methods (such as hereditarily engineered crop), waste sludge, or artificial fertilizers, according to them. Conventional farming, on the other hand, is the use of synthetic pesticides and chemical fertilizers to increase crop production and benefit. Synthetic pesticides and chemicals can kill mosquitoes, weeds, and rodents in organic cultivation, and grow factors like synthetics hormones and fertilizer can boost grow rates . Consumptions of conventionally grow food is prohibited due to use of synthetically generated pesticide and artificial fertilizer in traditional cultivation, as well as for these purposes, organic farming is increasingly gaining prominence.

Organic Food

Organics foods is grow without use of synthetic chemical such as pesticides and fertilizers make by humans, and it doesn't contains Genetically Modifies Organisms (GMOs). New vegetables, fish, dairy product, and packaged food like frozen meals, drinks, and crackers, are all examples of organic foods. Over the late twentieth century, the organic food market has expanded considerably, becoming a multi-billion-dollar sector with different production, packaging, delivery, and trade processes[1]. Food produced according to organic farming

standards is known as organic food. Organic farming activities cycle energy, foster ecological balance, and protect biodiversity, according to various standards around the world. The usage of such fertilizers and pesticides in agricultural practices used to manufacture organic products can be restricted by organizations that regulate organic products synthetic food additives, industrial solvents, and Irradiation are seldom used in processing of organic foods. The European Union, , Mexico, Canada, Japan, the United States and a number of others countries need farmers for receive special certifications in orders to sell their products as organics in twenty-first century.

While produce of kitchen garden which be organics, sale of organics food is supervised from government food care agencies such as (USDA) United States Departments of Agriculture National Organics Program or Europeans Commission (EC). Fertilization, overproduction, and pesticide use in organic cultivation may have harmful consequences for habitat, biodiversity, wetlands, and drinking water sources. In organic farming, these environmental and health concerns are reduced or eliminated. Organic food demand stems largely from public worries for their own health and the environment. According to research, even heavily refined organic food like pizza, ice-cream, and cereals can be view as better than not organic counterparts base on marketing messages used to sell them. Nonetheless, there is no data in the research and medical literature to endorse arguments this organic foods is either better or easier for eat then traditional foods from the standpoint of scientists and consumers. Though there may be some variations in nutrient and anti-nutrient content between conventionally and organically grown food, variables nature of foods processing, packaging, storage, and handling makes generalizing outcomes impossible. Tests usually do not endorse claim that "organic foods taste better," but consumers often expect organic food produce like fruits and vegetables to taste better. When opposed to traditional agricultural practices, organic agriculture have higher market prices rates, reduced yields, larger production ,and higher labour costs [2].

The Benefits Of Organic Food

Peoples with allergy to food, additives, or preservative can notice that their symptom diminish or disappear whenever they consume only organics foods[3]. The benefit of organic foods are given below:

- 1) Organic produces contains fewer pesticide Chemicals like synthetic, insecticides, herbicides, and fungicides are widely use in conservative agricultures and residue remain on and in the foods we eats.
- 2) Organic foods is also fresh because it lacks preservative that extend the shelf life. Organic produce is often (but not always) grown on smellers farms closer to where's it sold (so keep an eye on where it comes from).
- 3) Organic farming is generally more environmentally friendly. Organic farming activities have the potential to mitigate emissions, save waters, minimize soils erosion, improve soisl fertility, and usage of less resources. Farming deprived of synthetic pesticides is also safer for birds and animals in the region, as well as people who live around farms.
- 4) Antibiotics, growth hormones, and animal byproducts are not used on organically raised animals. Use of antibiotic will generate antibiotic resistant bacteria strain, and feeding livestock animals byproducts raises the risks of mad cow disease (**bovine spongiform encephalopathy**). Animals raised organically have more room to run about and have access to the sunlight, which helps them stay well.
- 5) Organic meat and milk can have higher levels of certain nutrients. Organic milk and meat had up to 51% greater levels of curtains nutrients, such as omega 3 fatty acids, then conventionally grown meat and milk, according to a 2016 European study.
- 6) Organic food is free of GMOs. GMOs, also known as Genetically Modified (GM) food, is plant whose (DNA) **Deoxyribonucleic Acid** has changed in way that are not possible in nature or by conventional cross breeding, most usually for make them pesticide resistant's or to create an insecticides.

Organic foods vs. Locally-grown foods

Un-like organic standard, there are not specific definition for local food. It can be grows local community, state, region, or country. During high portions of years it's typically possible for find foods grown closes to homes at place such as farmer market. The benefit of locally grown foods are given below:

- 1) Money remains the local economy thanks to a financial advance. Instead of going to marketing and sales, more moneys go straight to farmer.
- 2) Locally produced food has a significant transportation benefit. In the United States, for example, a meal flies over 1,500 mile from farm to the dinner plates. Produces must picked when still un ripe and then gassed during transport to "ripen" it. Alternatively, the food is heavily refined in warehouses, where irradiation, preservatives, and others methods are used to maintain it healthy for transportation.
- 3) The benefit of cleanness is also an advantage of locally produced food. Local produce is picked when it is ripe, making it fresher and more flavorful. Any small farmers in the area used organic practices, but they may not able for afford to be certify organic.

Organic Farming Process

Organic farming's, agricultural systems that use ecologically base pest control and biological fertilizer derive large from animals and plants waste and nitrogen fixing covers crops[4]. Modern organics farming was created in reaction to the environmentals damage incurred by use of toxic pesticide and industrial fertilizer in traditional agricultures, and it has a number of environmental advantages. Organics farming and food processing activities are diverse, necessitating the developments of a social, environmentally, and economical viable food production systems. As shown in Figure 1.

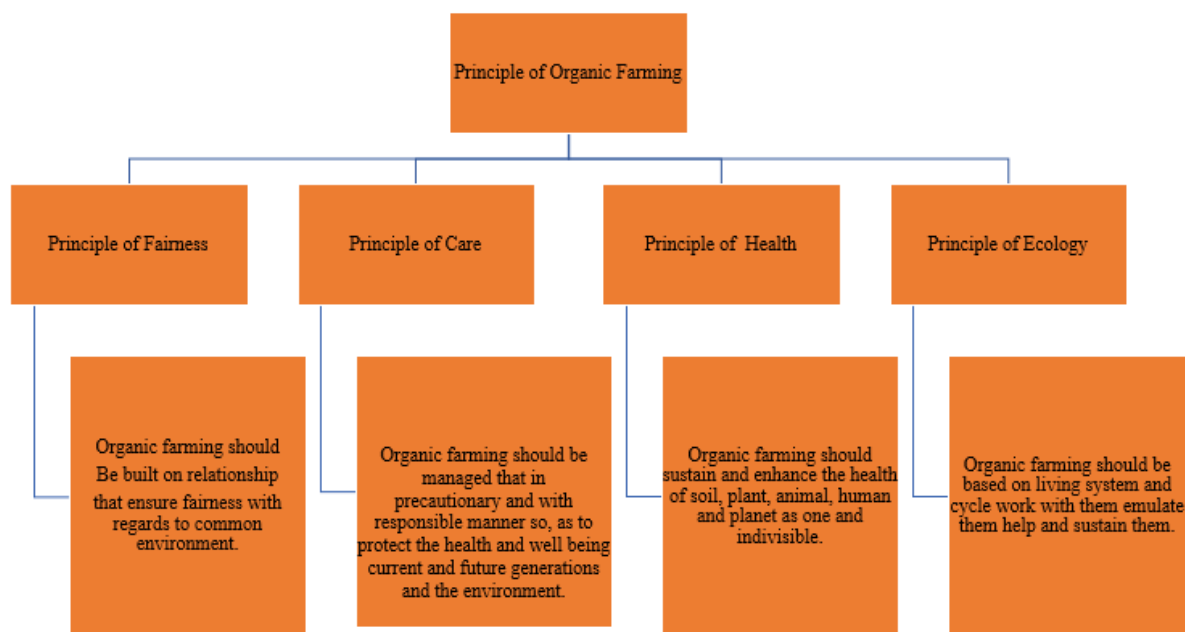


Figure 1: Shows Principle of Organic Farming have Four Principle: Principles of Fairness, Principles of Care, Principles of Health, and Principles of Ecology.

International Federations of Organics Agriculture Movement (IFOAM) has proposed the four values of organics farming: fitness, biodiversity, justice, and care. The main principle and practices of organic foods productions are for encourage and enhances biological cycle in farming systems, to maintain and improve deep rooted soils fertility, to reduces all type of pollutions, to avoid use of synthetic fertilizers and pesticides, to conserves genetic diversities of foods, to consider vast socio ecological impacts of food productions, and to produces high quality foods in a sustainable manner. Agriculture requires unique pre-requisites to both crop cultivation and animals

husbandry, according to the National Organic Program introduced by the (United States Department of Agriculture) USDA Organics Food Productions Act (OFPA, 1990). To be considered organic, crop must grow for three years without use of synthetics pesticides, artificial fertilizer, or herbicides, with a sufficient buffer zone to prevent runoff from neighboring fields. Ionizing radiation, genetically modified products, and waste sludge are all specifically forbidden. Soil fertility and nutrient content are largely controlled by agricultural practices such as crop rotation and the use of cover crops supplemented with animal and plant waste manures. Without the use of herbicides or synthetic chemicals, pests, pathogens, and weeds are primarily regulated by the adaptations of physicals and biologicals control system. Organic animals should be reared without the use of growth hormones or antibiotics on a regular basis, and they should have enough access to the outdoors. Preventive health measures such vaccines and vitamin and mineral supplements are also needed (OFPA, 1990). They have seven part of organic farming have four principle: , principle of health, principle of ecology principle of fairness and principle of care, and as shown in Figure 2.

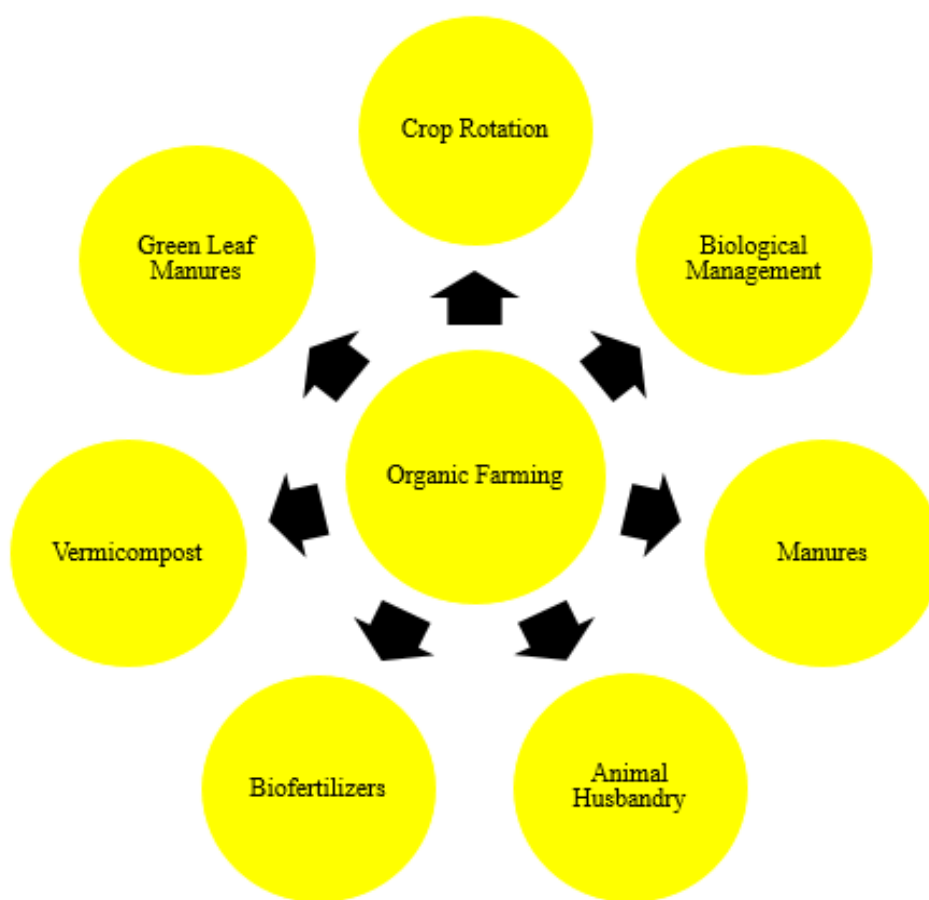


Figure 2: Organic have Seven Different Parts Which are Crop Rotation, Biological Management, Vermicompost, Manures, Biofertilizer Green Leaf Manures, and Animal Husbandry.

Organic Agriculture And Sustainable Development

Environmental health's, agricultural profit ability, and socials and economics justice are three core priorities of maintainable agriculture. The philosophy of sustainability is based on the idea that we must address current needs without jeopardizing future generations opportunity to meet their own. The basic approaches to organics farming for sustainable environments include following:

- The natural habitat and agro-ecosystem are being improved and maintained.
- Preventing natural resource overexploitation and waste.

- Reducing the use of nonrenewable electricity sources.
- Taking advantage of synergies found in natural ecosystems.
- Maintain and enhance soil quality by encouraging soil activity by using organic manures instead of pesticides.
- Optimum financial gains when operating in a clean, stable, and balanced climate.
- Appreciation of the benefits of indigenous experience and the conventional agricultural method.

Organic farming is the best way to ensure long-term economic survival, and organic farming is more lucrative due to its higher selling price. The increased cost of output caused by usage of fertilizer and pesticide in organic cultivation, as well as the detrimental effect on farmer welfare, has an economic impact on a population, with the gains going only to the pesticide producer. Chemical fertilizers continue to degrade soil productivity, resulting in output losses and higher production costs, making farming economically unsustainable. Implementing a policy that includes export oriented development system, food security, rural jobs, poverty alleviation, natural resource management, implementation of, sound infrastructure, private-public sector active government involvement, collaboration would help to revitalize agriculture's economics resilience. Natural cultivation has a number of distinguishing features. The key characteristics of organic farming include[5]:

- Keeping soils fertile for the long term by preserve organic matter ratios, promoting soils biological growth, using diligent mechanical actions.
- Providing crops nutrient indirectly through the activity of soil microorganisms, which make comparatively insoluble nutrients sources obtainable to plant.
- Nitrogen self-sufficiency by legume and biologicals nitrogen fixations, and efficient agricultural waste recycle, such as thermal intervention livestock manure and crop residue pest control relying disease and primarily on crop rotations, natural predators, , organic manuring, diversity , varieties chemical, biological and Weed and resistant limited.
- Comprehensive livestock cares, take into account evolutionary adaptation, behavioral preferences, animal welfares concerns in terms of diet, shelter, sanitation, breeding, and rearing.

Profits And Drawbacks Of Organic Farming For Customers

Consumers profit from organics farming in a variety of ways. To begin with, organic farming requires farmers to adhere to strict quality standards due to its unique requirements. Organics farming is most common than traditional farming in general: like farm animal in organics farming advantages from wider fields, with some animals required to have access to the outdoors. Calves raised in organic farming, for example, have 4 meter square per head (for a 300 kg calf), compared to just 1.8 meter square in traditional farming. This wider approach will allow certain specialists to procure higher-quality goods, such as those that are tastier. Organic farming, on the other hand, yields are often smaller than traditional farming. As a result, running expenses will rise (and that's why higher sell prices). As a result, the recommend retails price (RRP) for customers purchasing from organics farming is generally greater than conventional agriculture's market rates. This creates a slew of issues, especially for low-income customers who lack the financial means to purchase organic food. Some products, particularly those that develop easily without pesticides, have similar prices. Still, others, like dairy and meat, are pointedly more luxurious in organics farming because that require most works in orders to comply with organic specification[6].

Literature Review

They have various researcher who do the researches and studies about the organic farming and organic Food. The few of analyzer and researcher and there researches and there studies are given below: Faidon Magkos et.al studies Concerns about the safety and quality of conventional foods have increased in now years, driving an increase in demands for organically grows food, which seen as cleaner and healthier and Although there is a scarcity of relevant scientific data, anecdotal accounts prevail. Despite the desperate need for evidence on the health benefit and risk of foods items from both generalized ,origins findings remains speculative in the nonappearance of sufficient comparatives data. Organic vegetables and fruits may have less agrochemical contaminants then conservatively grown counterparts; however, the importance of that distinction is debatable, given that real amounts of toxicity in all forms of produce are typically far below reasonable limits. Furthermore, root, tuber vegetables and some organic leafy, and tend for have lower nitrates content than traditional vegetables, but whether dietary nitrate poses a health risk to humans is a matter of controversy. Environmental pollutants (for example cadmium and others heavy metal), which are like to found in foods from both sources, though, show little discrepancies. Other foods risk, like endogenous plants poisons, pathogenic microorganisms and biological pesticides have only little data, making generalizations impossible. Furthermore, the effects of my-cotoxin contaminations in cereal crop is inconsistent and indecisive, leaving no definite view. As a result, it's difficult to weigh the costs, but it's important to note that "clean" does no always imply "clean." In this field of study, further research is required. Other consideration, other than safeties concerns, seem to speaks in favors of organic foods at this time[7].

Anne Lise Brantsæter et.al studies Natural food brands are gaining popularity around the world. For production, storage, refining, and marketing, these foods follow certified organic requirements. The use of synthetic pesticides, genetic, and modification fertilizers was all prohibited. The beliefs that organics food is extra environmentally conscious and safe then conventionally grown food is one big explanation for the increased demand. This study outlines the scientific evidence for compositional discrepancies and health benefits of organic over conventionally grown food and offers an analysis on sales data and consumer expectations for organic food. There are some variations in favor of organic products, including signs of beneficial health benefits, according to studies. Organic foods have less chemical residues than conventionally processed foods, but the effect on human health is unknown. Natural food intake is closely linked to many indices of a balanced lifestyle, and traditional agricultural "best practices" are also very similar to those of organic agriculture[8].

Suryatapa Das et.al studies Food quality and protection are two significant aspects that have gotten a lot of coverage from the general public. genetically modified crops, Nitrate, Pesticide residue, antibiotic residue, heavy metals, and hormones all contribute to the negative health effects of conventionally produced foods. Furthermore, conservatively gowns food are fewer nutrient-dense and have less antioxidants. Due to potential health benefits and food safety risks, demand for organically produced foods has risen in recent decades in the search for healthy food. synthetic pesticides and Chemical fertilizers as well as hereditarily modified plants, growth hormone, and antibiotic, are not used in organic food production. Organically produced foods are becoming more common as a result of their dietary and health benefit. Organics farming is more environmentally friendly and have greater socioeconomic effect on a country. India is a country endowed with indigenous skills and the capacity for organic agriculture development. Despite being behind the curve in the implementation of organic farming for a variety of reasons, India has seen exponential growths in organic agriculture and is one of world's largest organics growers. As a result, organic farming has a significant effect on India's health by ensuring long-term development[9].

Axel Mie et.al studies present literature on organic food's impact on humans health it contrasts organics and traditional food productions in terms of human health criteria and addresses the future effects of organics management activities, with a focus on European union conditions. Organics food intake could lower the risks of allergic diseases, overweight, as well as obesity, although evidences is inconclusive due to possible residuals confounding as organic foods users generally live healthy lifestyles. Animal studies, on the other hand, show the identically composed feed by traditional or organic processing affect growths and developments in many way. Pesticide use is prohibited in organic crops, while residues in traditional vegetables and fruits are primary cause of human pesticides exposure. While epidemiological study have shown that such pesticides have negative

effects on children cognitive growth at recent level of exposures, these findings has yet to be included in systematic risk assessments of specific pesticides. Organic and traditional crops have similar compositions, with organic fruit and vegetables having a slightly higher concentration of phenolic compounds and organic cereal crops likely having a lesser contents of (cd)cadmium. Organics dairy product, and maybe even foods, have a greater content of omega-3 fatty acids relative to traditional product. However, that variations are similarly of negligible dietary importance. Widespread uses of antibiotics in traditional animals agriculture, which is a primary cause of antibiotic resistances in society, is of greater concern; antibiotic used is fewer intense in organics animal productions. General, the study highlights many known and possible human health's advantages associated with organic food processing, and the use of like this production practices in traditional agriculture, such as in advanced pest control, is likely to be beneficial[10].

In above the researcher studies and analyzed about the organic farming and organic food but they did not give proper details about but they did not explain well like the definition of organic food, definition of organics farming, benefit of organics food, organic farming process etc. That paper gives all details about all details about organic farming, organic food, benefit and disadvantage of organic farming, difference between organic and local food etc.

Discussion

The researcher studies and analyzed about the Organic Farming and Organic Food but they did not explain well like the about the organic food, definition of organics farming, benefit from organic food, organic farming process etc. This paper gives all details about organic farming like definition of organic food which states that **organic foods**, fresh food produced from organic farming method, definition of organic farming which states that **Organic farming**, is agricultural systems that use ecologically base biological fertilizers and pest controls derived mostly from animals and plants waste and nitrogen fixing crop, benefit and disadvantage of organics farming, difference between organic and local food. This paper also contain sustainable development and organic agriculture as well as principles of organic farming such as principles of fairness, principles of care ,principles of health, organic farming process and principles of ecology.

Conclusion

This paper gives all details about organic farming like definition of organic food which states that **organic foods**, fresh food produced from organic farming method, definition of organic farming which states that **Organic farming**, is agricultural systems that use ecologically base biological fertilizers and pest controls derived mostly from animals and plants waste and nitrogen fixing crop, benefit and disadvantage of organics farming, difference between organic and local food. This paper also contain sustainable development and organic agriculture as well as principles of organic farming such as principles of fairness, principles of care ,principles of health, organic farming process and principles of ecology. The scope of organic farming and organic farming and organic food increasing day by day. That is mainly cause to the new research make in field for agriculture. It facilitated the farmer with novel measure for more productions eliminate activity of bypass method

References

1. L. A. Duram, "Organic food," Britannica. <https://www.britannica.com/topic/organic-food>.
2. "Organic food," wikipedia. https://en.wikipedia.org/wiki/Organic_food.
3. "Organic Foods: What You Need to Know," HelpGuide. <https://www.helpguide.org/articles/healthy-eating/organic-foods.htm>.
4. R. Adamchak, "Organic farming," Britannica, 2008. <https://www.britannica.com/topic/organic-farming>.

5. "What is organic farming." https://agritech.tnau.ac.in/org_farm/orgfarm_introduction.html.
6. "Organic farming: definition, standards, benefits," YouMatter. <https://youmatter.world/en/definition/organic-farming-definition-standards-benefits/>.
7. F. Magkos, F. Arvaniti, and A. Zampelas, "Organic Food : Buying More Safety or Just Peace of Mind ? A Critical Review of the Literature Organic Food : Buying More Safety or Just Peace of Mind ? A Critical," vol. 8398, 2007, doi: 10.1080/10408690490911846.
8. A. L. Brantsæter, T. A. Ydersbond, J. A. Hoppin, M. Haugen, and H. M. Meltzer, "Organic Food in the Diet : Exposure and Health Implications."
9. S. Das, A. Chatterjee, and T. K. Pal, "Organic farming in India : a vision towards a healthy nation," no. June, pp. 69–76, 2020, doi: 10.1093/fqsafe/fyaa018.
10. A. Mie et al., "Human health implications of organic food and organic agriculture: A comprehensive review," *Environ. Heal. A Glob. Access Sci. Source*, vol. 16, no. 1, pp. 1–22, 2017, doi: 10.1186/s12940-017-0315-4.