



A Monthly e Magazine
ISSN:2583-2212

July, 2023; 3(07), 1852-1857

Popular Article

Organic Livestock Products: A Boon to Today's Health Consciousness

Dr. Priyam Agravat¹, Dr. Jitender Singh², and Dr. M. M. Islam³

¹Ph.D. Scholar, Department of Livestock Production Management, College of Veterinary science & A. H., Kamdhenu University, Anand, Gujarat, India

²M.V.Sc. Scholar, Department of Livestock Production Management, College of Veterinary Science & A. H., Kamdhenu University, Anand, Gujarat, India

³Associate Research Scientist and Head, Pashupalan Sanshodhan Kendra, VASREU, Kamdhenu University, Ramna Muvada, Gujarat, India

<https://doi.org/10.5281/zenodo.8212354>

Abstract

Organic farming and its products have emerged as an important sector in India as in other parts of the developing world, and is seen as an important strategy of facilitating organic products. The organic livestock sector is reported to be growing at between 20 and 25 percent a year. Organic products such as meat, egg, and milk products greater amounts of PUFA especially omega-3 fatty acids, conjugated linoleic acid as well as lower saturated fatty acids. Organic meat, milk, and eggs had higher vitamin and mineral contents. When compared to conventional products, organic products may offer certain health benefits. Consuming organic food may lower the risk of various disease condition. The aim of this article is to know the importance of eating organic products for human health.

Keywords: Organic farming, organic products, human health benefits

Introduction

Organic livestock farming is a technique in which plants and animals are grown in natural ways. This process involves the use of biological materials. Organic livestock farming avoids chemical pesticides and fertilizers and aims to increase the fertility of the soil by feeding the soil microorganisms with the remains of life, such as waste compost and sewage, manure, crop residues, food industry waste. Conventional farming methods brings many problems health related diseases



such as cancer, teratogenicity, mutagenicity etc. (Chaudhary, 2021).

According to United States Department of Agriculture (“USDA”) for organic, product the animals must have no added hormones, antibiotics, genetically modified organisms, and preservatives. The animals must be able to graze on pastures and are not allowed animal by product feed (Desai *et. al.*, 2021).

In the years 2012–23, India generated over 2.9 MT of certified organic goods, which span a wide range of food items. Madhya Pradesh is the biggest producer of organic products, followed by Maharashtra, Rajasthan, Karnataka, and Odisha. The overall export volume in 2022–2023 was 312800.51 MT. around INR 5525.18 Crore (708.33 million USD) of organic food was exported. Exports of organic goods go to countries like the United States, the European Union, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, the Republic of Korea, Vietnam, Japan, (APEDA).

Importance of organic products

1. Better nutrition
2. Helps human to stay healthy
3. Non-toxic
4. Organic foods are very authentic
5. Improved taste
6. Ecological farming methods are environmentally friendly
7. Longer shelf-life

Organic products and its health benefits to human beings

Organic milk

Organic milk is the milk from an animal that spends (120 days per year) grazing on organic pastures and gets at least 30% of its nutrients from such pastures (Kourimska *et. al.*, 2014). Health benefits of C-milk:

- A. Rich source of polyunsaturated fatty acids (PUFA) especially ω -3-fatty acids:** O-milk has more PUFA from the -3 fatty acid family than C-milk does. Due to certain advantageous benefits of these fatty acids, namely on cardiovascular, cancerous, and autoimmune disorders such system erythematosus, rheumatoid arthritis. O-milk has high levels of conjugated linoleic acid (18%) as well as ω -3 fatty acids such as -linolenic acid (60%) and eicosatetraenoic acid (32%), docosapentaenoic acid (19%) and -linolenic acid (Cintra *et. al.*, 2018).
- B. Higher levels of vitamins:** According to various studies the iron, -tocopherol, vitamin A and vitamin C content of O-milk is higher than that of C-milk, which may be related to the fact



that organic crops generally have higher levels of vitamin C than conventional feeds. Another study revealed that O-milk had a much greater concentration of vitamin E and beta-carotene than C-milk.

- C. **Rich source of antioxidants and conjugated linoleic acid (CLA):** CLA content in organic animal products has favorable impacts on human health including cancer, atherosclerosis, inflammation, and obesity. O-milk has 25% more CLA than C-milk due to the increased levels of PUFAs in diet. Compared to C-milk, O-milk has an antioxidant content that is around 2-3 times greater, including lutein and zeaxanthin (Prandini *et. al.*, 2009).
- D. **Low urea concentration:** Urea is a typical component of milk, making up the majority (55%) of the nonprotein nitrogen content. Milk typically contains 18 to 40 mg of urea. Since urea usage is prohibited in organic farming, several research have found that O-milk has lower urea levels than C-milk.
- E. **Pesticide residue-free:** Chemical sprays are not used on forages in organic farming, O-milk generally has much less pesticide residues than C-milk and is only mildly contaminated, mostly by environmental pollution.
- F. **Antibiotic residue-free:** Antibiotic residues have detrimental effects on human health, such as acute toxicity, teratogenicity, decreased fertility, drug allergy, and carcinogenicity. O-milk is largely devoid of antibiotic residues. Natural treatments are primarily utilized in livestock to cure diseases; when such remedies are ineffective, antibiotics are used with appropriate withdrawal time.
- G. **Free from hormone residues:** O-milk is devoid of chemical and hormone residues as well since there is no direct or indirect usage of hormones in animal production. O-milk is also often devoid of genetically engineered organisms, solvent extracts, fertilizers, and chemical medication residues. These residues cause genotoxicity, carcinogenicity, and mutagenicity on human health.
- H. **Free of aflatoxins:** Aflatoxins are secondary metabolites frequently formed by *A. Flavus* and *A. parasiticus* in feeds (mainly corn and maize) during storage under specified temperature and humidity conditions. Aflatoxin M1 is extremely immunosuppressive, teratogenic, genotoxic, and carcinogenic for humans (Oruc *et. al.*,2006).

Organic meat



Animal tissues are strongly influenced by environmental conditions besides species, genetics, gender, age at slaughter. However, human health is benefitted by various aspects of meat produced under organic systems:

- A. **Low fat and high PUFA:** O-meat includes lower fat and more PUFA than C-meat. Intramuscular lipid content is lowered from 25 to 45% in meat from animals grazing grasslands. However, it is lower (1.2-1.6%) in swine meat. O-meat contains higher concentration of PUFA in the back fat (1.8%). Organic chicken meat likewise exhibits lower lipid content than traditional poultry meat. In poultry meat, intramuscular fat is lower in breast fillet and drumstick portions than the typical birds.
- B. **Low ω -6: ω -3 fatty acid ratio:** Organic beef meat contains five times greater quantity of ω -3 fatty acids. However, it fulfills the necessary quantity of 1.1 and 1.6 g/d of ω -3 fatty acids indicated for adults. There is a considerable drop in ω -6: ω -3 fatty acid ratio from roughly 8:1 in conventional beef meat to 2:1 in organic one. This will be highly beneficial to reduce cardiovascular disease risk.
- C. **Low cholesterol:** O-meat (cow and poultry) contains lower cholesterol than C-meat. Hence it serves as healthier meat for heart patients, convalescent and old age individuals.
- D. **Less risk of pathogenic bacteria:** Antibiotics are not routinely used in organic farming, meat produced in this manner is probably less likely to be contaminated by some bacteria. (Kumar *et. al.*, 2017)

Organic eggs

Eggs are recognized as a food with the highest biological value that is also reasonably inexpensive, pure, and highly nutritive. In general, O-eggs have a lower yolk to albumen ratio than C-eggs and more protein overall. O-eggs provide the following health advantages:

- A. **Rich source of PUFA:** O-eggs have more ω -3 fatty acids than C-eggs (6.2–7.7 g/kg yolk). In comparison to eggs from chickens maintained in cages, barns, and free-range systems. The lower permissible intake for adults is 250 mg/d for n-3 PUFA, which include eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) lesser the risk of chronic illnesses.
- B. **Low fats and saturated fatty acids:** The lipid and saturated fatty acid content of O-eggs (82.1–85.7 g/kg yolk) is lower than that of C-eggs (60–68 g/kg yolk). As a result, O-eggs



may be healthier because to their greater ω -3 fatty acids, lower atherogenic index, and reduced saturated fatty acid content.

C. More minerals and vitamins: O-eggs are often richer suppliers of Zn and Se than C-eggs. O-eggs had a greater Fe content than C-eggs (2 mg% vs. 1.6 mg%). Furthermore, O-eggs have roughly 7% more potassium than C-eggs.

D. Higher Haugh unit: An egg's Haugh unit (HU) indicates the egg's quality. Higher HU indicates higher egg quality in terms of freshness, egg white albumin thickness. HU of O-eggs (65.26) was much greater than that of eggs from chickens maintained in barns (58.12), free-range systems (58.12), and cages (48.39) Matt *et. al.*, 2009.

Organic fish

The growth of organic aquaculture has also caught the interest of consumers, environmentalists, and business entrepreneurs. Carps, catfish, tilapias, salmon, shrimp, mussels, perches, milkfish, trout, sea bream, fresh water prawns, sea bass, etc. are examples of organically cultivated marine foods. In organic fish farming, a variety of feed materials with plant origins that meet organic criteria can be used to create organic diets. For the cultivation of organic fish, it is strictly forbidden to use GMOs, antibiotics, hormones, pesticides, synthetic feed additives. In terms of the health advantages of organic fish over conventional fish, it is being devoid of hormone, chemical, and pesticide residues.

Conclusions

Organic livestock products have found significant and nutritionally important compositional differences between conventional foods. Organic products such as meat, egg and milk products have higher amounts of PUFA especially omega-3 fatty acids, conjugated linoleic acid, as well as lower saturated fatty acids. However, organic milk and meat has lower cholesterol level, ω -6: ω -3 fatty acid ratio and pathogenic bacteria. Vitamin and mineral content were significantly higher in organic meat, milk, and egg. Aflatoxin M1 (mostly secreted in milk), is highly genotoxic, teratogenic, and immunosuppressive for humans however, organic milk contains lower levels of aflatoxin M1. Therefore, organic products are much safer and because of high nutritional value, protect us from various major diseases and help in reducing the risk of diseases. With an increased number of people suffering from health issues, switching to organic food is the right decision for better health.

References



- Chaudhary, B. S. (2021). Organic farming is a boon to soil and human health. *Just Agriculture*,36-41.
- Cintra, R. M. G.; Malheiros, J. M.; Ferraz, A. P. R. & Chardulo, L. A. L. (2018). A review of nutritional characteristics of organic animal foods: eggs, milk, and meat. *Nutrition and Food Technology*, 4(1).
- Desai, R. & Malik, G. (2021). A study on impact of organic foods on human health. 2nd CT International Hospitality and Tourism E- Conference (CTIHTC), 284-291.
- Kourimska, L.; Legarova, V.; Panovska, Z. & Panek, J. (2014). Quality of cows' milk from organic and conventional farming. *Czech Journal of Food Sciences*, 32(4), 398-405.
- Kumar, N. M.; Kangaraju, P.; Pandian, C. & Srinivasan, G. (2017). Organic broiler meat production in India – an overview. *International Journal of Livestock Research*, 7(11): 23-31.
- Matt, D.; Veromann, E. & Luik, A. (2009). Effect of housing systems on biochemical composition of chicken eggs. *Agronomy Research*, 7(2): 662-667.
- Oruc, H. H.; Cibik, R.; Yilmaz, E. and Kalkanli, O. (2006). Distribution and stability of aflatoxin M1 during processing and ripening of traditional white pickled cheese. *Food Additives and Contaminants*, 23: 190-195.
- Prandini, A.; Sigolo, S. & Piva, G. (2009). Conjugated linoleic acid (CLA) and fatty acid composition of milk, curd, and Grana Padano cheese in conventional and organic farming systems. *The Journal of Dairy Research*. 76(3): 278-282.

