

# INSIGHT TO ORGANIC DAIRY FARMING

MS. NIHA KHAN (MBA – Technology, B. Tech – Dairy Technology)

Assistant Professor & In- Charge, Deptt. Of Dairy & Food Technology  
Pacific Institute of Dairy & Food Technology, Pacific University, Udaipur (Raj). India  
Email - nihakhan8@gmail.com

**Abstract:** *Organic dairy farming implies raising dairy creatures on natural nourish and giving them the entrance to pasture, alongside the confined utilization of anti-infection agents and hormones. While natural products, vegetables, grains, and some animals have for some time been backbones of the natural development, Organic dairy farming is a relative newcomer. With the expansion in the mindfulness and wellbeing cognizance among purchasers, interest for natural items including milk is expanding. The way that most natural markets and customers are in created nations and are set up to pay a premium for natural items makes Organic Dairy farming a specialty zone with fantastic prospects for fares. This article gives a knowledge into the different parts of organic dairy farming.*

**Key Words:** *organic; dairy; farming; milk.*

## 1. INTRODUCTION:

The food generation and supply has expanded by the utilization of manures, anti-microbials, drugs, agrochemicals etc now-a-days, customers have turned out to be quality-cognizant and are progressively looking for ecologically sheltered, synthetic deposit free sound sustenance, along with product traceability and an elevated requirement of animal welfare, which organic procedures strategies ensure (Chander et al., 2011).

As per the Codex Alimentarius Commission, 'Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It underlines the utilization of administration practices in inclination to the utilization of off-farm inputs, considering that territorial conditions require privately adjusted frameworks. This is proficient by utilizing, where conceivable, agronomic, natural, and mechanical strategies, instead of utilizing engineered materials, to satisfy a particular capacity inside the framework' (Codex Alimentarius, 2007).

The organic farming development is usually consented to have started in the 1940s in England with the compositions of Sir Albert Howard, who found out about natural practices in India amid the 1920s. In the U.S., the introduction of the organic farming is normally credited to J.I. Rodale. The explanations behind producing and purchasing organic food are individual and can be mind boggling. Be that as it may, most will fall into three classifications: health, community, and environment. The organic development is based on a central rule: healthy soils lead to healthy crops, healthy animals, healthy humans, and a healthy planet (Pierce and Tilth, 2014). Organic crops and animals generation concentrates on building soil organic matter and science to make a practical, dynamic condition for delivering biological sustenance and food. Organic horticulture is additionally observed as an approach to manage and bolster family cultivates in inclination to faceless, constantly extending super and corporate farm models.

Organic farming is honed in 160 nations and 37.2 million hectares of agrarian land are overseen naturally. Worldwide offers of organic food and drink achieved US\$54.9 billion in 2009 (Willer and Kilcher, 2011). 40% of the world's natural makers are in Asia, trailed by Africa (28%) and Latin America (16%). The nations with the most makers are India (677,257), Uganda (187,893) and Mexico (128,862). However animal products are still a little share of the natural market, contrasted with organic products, oats and herbs.(Willer and Kilcher, 2011).

## 2. ORGANIC DAIRY FARMING:

Organic Dairy farming implies raising milching animals on organic feed (i.e. pastures developed without the utilization of composts or pesticides), have admittance to pasture or outside, alongside the limited use of anti-toxins and hormones (Oruganti, 2011). Though organic products, vegetables, grains, and some animals have for quite some time been pillars of the organic development, natural dairy is a relative newcomer (Pierce and Tilth, 2014). Organic dairy surged into the natural commercial center in the 1990s, building up itself as a noteworthy classification. The accomplishment of natural dairy can to a great extent be credited to a few basic occasions, including a reaction to Monsanto's presentation in 1994 of hereditarily altered or recombinant Bovine Growth Hormone (rBGH). The multiplication of rBGH utilize, combined with expanded purchaser attention to hereditarily changed corn, soybean,

and different yields treated with a variety of manufactured pesticides being bolstered to animals; the nourishing of butcher by-items to ruminants and worries about distraught cow sickness; and the expanded utilization of engineered medicines including hormones, anti-infection agents, and steroids have urged numerous buyers to look for natural dairy items. These buyers have come to depend on the affirmations of guaranteed natural dairy as a confided in wellspring of unadulterated dairy items.

### 3. NORMS FOR ORGANIC MILK PRODUCTION:

To create organic milk farm must be enrolled with a natural control body and generation framework embraced must meet the organic standards. Five natural principles are imperative and have an overall acknowledgment, viz. European Union Regulation (1804/1999), Organic Food Products Act (OFPA) of USA, Draft Guidelines of Codex/WHO/FAO, United Kingdom Register of Organic Food Standards (UKROFS) of UK and the International Federation of Organic Agricultural Movements (IFOAM) fundamental norms. It has been accounted for that there are 468 associations overall which offer natural confirmation administrations (Yadav, 2008). Most confirmation bodies are in Europe (37%) trailed by Asia (31 %) and North America (18%). The nations with the most confirmation bodies are US, Japan, China and Germany. Forty for every penny of the confirmation bodies are affirmed by the European Union, 32% have ISO 65 accreditation and 28% are certify under the US National Organic Program. Steps required in accreditation incorporate enlistment of makers and the handling businesses, arrangement of fundamental data on the harvests and homestead, and assessment and confirmation of ranch, preparing unit, creation techniques, and generation rehearses by the examiner delegated by the affirming office like APEDA (Agricultural Products Export Development Agency), NSOP (National Standards for Organic Products), USOCA (Uttrakhand State Organic Certification Authority) named by Government of Uttrakhand, ECOCERT named by Ministry of Agriculture, Govt. of India and so forth. For the creation of natural drain the accompanying suggestions (Alexander, 2010) ought to be considered:

a) *Planning for organic farming:* For advancing from traditional to organic production, transformation planning is vital. Either the entire farm will be changed over in one piece or the transformation might be staged over various years. At least two years are required to change over the land to organic status. Organic milk can be created from the day when land accomplishes full organic status. For accomplishing organic status, herd probably began nine months and feeding six months preceding the expected organic milk production date.

b) *Feeding:* All feedstuffs utilized on the farm must be delivered and affirmed to organic norms from the beginning of transformation. All the bolster required ought to be created on the farm and greatest utilization of grazing ought to be made. Compound proportions and acquired mixes must be 100 percent organic. Mineral supplementation is just allowed where follow component necessities can't be met by the acts of organic farming. Some manufactured vitamins might be utilized, however subject to consent being allowed by the control body. Clover-based foods are critical for the achievement of organic dairy farms as they are the principle wellspring of nitrogen. Molasses if utilized should likewise be organic.

c) *Health of mulching animal:* All companions and descendants of Bovine Spongiform Encephalopathy cases must be expelled from the herd before beginning change. Preventive administration and homeopathic cures are constantly energized. Veterinary prescriptions and anti-infection agents must not be utilized as a preventive pharmaceutical but rather might be utilized to anticipate trouble in case of disease or damage with the withdrawal time frame at any rate double the expressed withdrawal time frame. Control of mastitis should be possible by great administration works on including teat dipping, and culling cows with high cell counts. Parasitic control might be accomplished through watchful touching administration practices to limit presentation to contamination. A few anthelmintics which have been concurred with the control body, might be utilized as a major aspect of a control program, and to treat creatures where clinical side effects happen. Immunization is allowed, under criticism, in situations where there is a known illness chance. Natural status is lost if creatures get more than three courses of treatment inside one year except for inoculation, treatment for parasites and any necessary destruction plans. Domesticated animals which lose natural status then need to experience a further change period to recapture it. In the event that organophosphorus items are utilized, natural status for eternity.

### 4. ORGANIC CERTIFICATION:

It is an affirmation procedure for makers of organic food and other organic agriculture products. By and large, any business specifically included in sustenance generation can be affirmed, including seed providers, dairy farm, farmers, nourishment processors and retailers. Affirmation is basically aimed for controlling and encouraging the offer of organic products to purchasers and furthermore averts extortion (Yadav, 2012). The five fundamental affirming bodies which screen the models for organic generation and having overall acknowledgment are:- EU regulation (1804/1999), - Organic Food Products Acts (OFPA) of USA, - Draft Guidelines of Codex / WHO/ FAO, - UK Register of Organic Food Standards (UKROFS) - International Federation of Organic Agricultural Movements (IFOAM) basic standards

## 5. BENEFITS OF ORGANIC MILK:

Organic milk has more gainful Omega-3 (Lairon and Huber, 2014), less harming Omega-6 (Benbrook et al., 2013). Omega-3 is a fundamental unsaturated fat which is required for sound development and its insufficiency prompts to different medical issues that have appeared recently. Customary admission of omega 3 unsaturated fats shields from different illnesses and diminishes the frequency of coronary illness, irritation (in skin ailments like dermatitis), tumor, and joint inflammation (Annon, 2014). The natural drain likewise contains more noteworthy measures of conjugated linoleic corrosive (CLA) (Mercola, 2014). Conjugated linoleic corrosive (CLA) expands the body's metabolic rate, resistance to malady, and muscle development. It additionally lessens stomach fat, cholesterol, and hypersensitive responses (Annon, 2014).

Organic cows graze on fields that are developed through organic means. In this way, their milk is not debased with destructive chemicals, for example, the deposits of pesticides, manures and hormones (Singh et al. 2011). Moreover, this supplement rich organic milk does not contain hints of anti-infection agents, GM sustain, urea, or fertility hormones, as these are not nourished to the cows to build their milk production.

Organic milk has times higher centralization of antioxidants like lutein and zeaxanthin than non-natural drain (Mercola, 2014). Lutein is critical for eye wellbeing and is powerful in keeping away various eye illnesses, for example, macular degeneration and waterfalls. Zeaxanthin is additionally imperative for good eye wellbeing. It shields the eye from UV harm and the effect of free radicals. It is extremely useful in preventing cataracts, diabetic retinopathy, glaucoma and macular degeneration.

Organic milk has a higher concentration of vitamins, for example, Vitamin A and Vitamin E than conventional milk. Since natural bovines eat on fresh grass and clover, the milk they create has around half higher Vitamin E and 75% higher beta carotene (Nielsen and Nielsen, 2004).

## 6. CONSTRAINTS IN THE DEVELOPMENT OF ORGANIC DAIRY FARMING:

Some of the constraints in the development of organic dairy farming have been enlisted by Kamboj and Prasad (2013) include lack of knowledge and awareness, restriction on landless organic dairy farming not permitted as per the National Standards of Organic Production (NSOP), limited availability of organic feed ingredients for formulating compound organic feed, problem of maintenance of proper records, limited reach of certification services and lack of proper procurement, processing and marketing infrastructure and network.

## 7. OPPORTUNITIES:

Interest for organic livestock products items is developing in the USA, EU, Japan, Argentina and Brazil. Belgium, Luxembourg, the Netherlands and the UK import critical measures of organic food. Purchasers pay a huge value premium for natural sustenance in Austria, Belgium, Germany and the UK. Local types of animals, which prevail in tropical nations, are less defenseless to stress and malady, thus the requirement for allopathic medications and anti-toxins is much lower. Grass-based, broad generation frameworks and backwoods based, creature generation frameworks that are common in numerous territories of these nations have impressive potential for transformation into natural creature cultivation. Education is on the ascent and the media are making shoppers more mindful of and worried about animal welfare issues and healthy foods. This may well lift the local utilization of organic foods.

## 8. CONCLUSION:

Increased consumer awareness of food safety issues and environmental concerns has contributed to the growth in organic farming over the last few years, although it only represented around 3 per cent of the total agricultural area. Now-a-days quality and health conscious consumers are increasing and they need environmentally safe, chemical residue-free healthy foods, along with product traceability and a high standard of animal welfare. These can be ensured by organic production methods. Organic farming can provide quality food without adversely affecting the soil health and the environment. Organic livestock farming should not necessarily be interpreted to mean that the foods produced are healthier, safer or all natural. It simply means that the products follow the defined standard of production and handling, although surveys indicate that consumers consider the organic label as an indication of purity and careful handling. In order to make organic livestock farming a success, there is need to take care of certain points, like reducing the paper work and cost for certification; sourcing of organic inputs like feeds and fodder, disease prevention, cost of production and maintaining animal health etc.

## REFERENCES:

1. Alexander D, 2010. Organic Milk Production. Department of Agriculture <http://www.dardni.gov.uk/index/farming/livestock/organic/organic-dairying/organic-milk-production.html>
2. Annon, 2014. Health benefits of organic milk. Organic Facts, Organic Information Services Pvt. Ltd. Karnataka, India. <http://www.organicfacts.net/organic-animal-products/organic-milk/health-benefits-of->

organic-milk.html

3. Benbrook CM, Butler G, Latif MA, Leifert C, Davis DR, 2013. Organic Production Enhances Milk Nutritional Quality by Shifting Fatty Acid Composition: A United States–Wide, 18-Month Study. *PLOS One* 8(12): e82429. doi:10.1371/journal.pone.0082429
4. Boer, 2003. Environmental impact assessment of conventional and organic milk production. *Livestock Production Science* 80(1-2): 69-77.
5. Bos JFFP, Haan JD, Sukkel W, Schils RLM, 2014. Energy use and green house gas emissions in organic and conventional farming systems in the Netherlands. *NJAS Wageningen Journal of Life Sciences* 68(7): 61-70.
6. Chander M, Subrahmanyeswari B, Mukherjee R, Kumar S, 2011. Organic livestock production: an emerging opportunity with new challenges for producers in tropical countries. *Scientific and Technical Review of the Office International des Epizooties* 30(3): 969 - 983.
7. Chung IM, Park I, Yoona JY, Yanga YS, Kima SH, 2014. Determination of organic milk authenticity using carbon and nitrogen natural isotopes. *Food Chemistry* 160(1): 214 – 218.
8. Codex Alimentarius, 2007. Organically produced foods, 3rd Ed. Codex Alimentarius Commission, World Health Organization (WHO)/Food and Agriculture Organization of the United Nations (FAO), Rome, pp. 51
9. Ghosh SK, 2006. Scope of integrated organic farming in India with special reference to North Eastern States, In: *Organic Animal Husbandry, Concept, Standards & Practices*, Division of Extension Education, IVRI, Izatnagar, UP; pp. 54-56.
10. Kamboj ML, Prasad S, 2013. Organic Dairy Farming in India: Prospects, Practices and Constraints. In: *New Paradigms in Livestock Production from Traditional to Commercial Farming and Beyond*. (Eds: S. Prasad, A. Kumaresan, S.S. Lathwal, M. Bhakat and A. Manimaran). Agrotech Publishing Academy, Udaipur, India. pp. 634-647.
11. Kimming M, Sundberga C, Nordberga Å, Bakyb A, Bernessona S, Hanssona PA, 2014. Replacing fossil energy for organic milk production – potential biomass sources and greenhouse gas emission reductions. *Journal of Cleaner Production* doi:10.1016/j.jclepro.2014.03.044
12. Kumar N, Sawant S, Malik RK, Patil G, 2005. Development of analytical process for detection of antibiotic residues in milk using bacterial spores as biosensors (Patent Reg # IPR/4.9.1.41 05074114791 deI /2 006).
13. Lairon D, Huber M, 2014. Food quality and possible positive health effects of organic products. *Food Quality and Possible Positive Health Effects of Organic Products*. In: Organic Farming, Prototype for Sustainable Agricultures (Eds. S. Bellon and S. Penvern). Springer, Netherlands. pp. 295-312.
14. Mercola J, 2014. Health Benefits of Organic vs. Conventional Milk. Mercola.com. <http://openlibrary.org/>
15. Nielsen JH, Nielsen TL, 2004. Higher antioxidant content in organic milk than in conventional milk due to feeding strategy. Newsletter from Danish Research Centre for Organic Farming. <http://orgprints.org/3938/1/3938.pdf>
16. Oruganti M, 2011. Organic Dairy Farming – A new Trend in Dairy Sector. *Veterinary World* 4(3): 128-130.
17. Pierce J, Tilth O, 2014. Introduction to Organic Dairy Farming. Extension <http://www.extension.org/pages/18325/introduction-to-organic-dairy-farming#.U4sMyHKSyoA>
18. Singh AK, 2007. Conversion to Organic Agriculture, Published by, International Book Distributing Co., Lucknow, U.P.
19. Singh M, Sharma DK, Mishra UK, 2011. Need of Organic Farming. In: *Organic Dairy Farming*. Satish Serial Publishing House, New Delhi, India.
20. Willer H, Kilcher L, 2011. The world of organic agriculture: statistics and emerging trends 2011. International Federation of Organic Agriculture Movements, Bonn & Research Institute of Organic Agriculture, Frick, Switzerland. Available at: [www.organic-world.net/yearbook-2011-contents.html](http://www.organic-world.net/yearbook-2011-contents.html).
21. Yadav AK, 2008. The strategic significance of organic farming to India, In *Global Organic Agribusiness*.
22. India Arrives! , Papers presented at India Organic 2008 Seminar, Westville Publishing House, New Delhi.