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Popular Article

Organic Dairy Farming: The Future of Sustainable India

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Introduction

In India, where millions of people rely on agriculture for their livelihoods and the country's economy, the search for sustainable farming methods has gained momentum. Concerns about the effects of conventional dairy farming on human health and the environment have led to the rise of organic dairy farming as a potential remedy. Organic dairy production puts human health, animal welfare, and environmental sustainability first by embracing natural, environmentally friendly methods including pasture-based systems and organic feed instead of synthetic inputs. There is a strong possibility that organic dairy farming could be widely adopted due to India's long history of dairy farming and the growing demand from consumers for organic products. This shift has the ability to lessen the negative effects on the environment in addition to enhancing farmer livelihoods. This paper aims to explore the role of organic dairy farming in fostering sustainable development in India by examining its environmental, economic, social implications, best practices, and policy recommendations, as we aim to chart a course towards realizing the vision of "Organic Dairy Farming: The Future of Sustainable India."

What is organic dairy farming?

Organic dairy farming is a farming practice focused on raising dairy animals in a way that maximizes their well-being and minimizes its impact on the environment. It involves preventing chemical substances like hormones and antibiotics access to animals and giving them access to organic diet and natural surroundings. Humane treatment is the main focus of organic animal husbandry, which also avoids the confinement methods used in conventional farming and lets animals behave in their natural ways. Organic dairy farming operates under strict standards governed by certification agencies authorized by governments. These standards ensure both the quality of the final product and the

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production process itself. Farms must meet specific criteria outlined in organic standards to be certified as organic, with certification bodies monitoring adherence to these standards. Several international standards exist, including the EU regulation, the Organic Food Products Act of the USA, Codex/WHO/FAO guidelines, UKROFS of the UK, and IFOAM Basic Standards. The Government of India has also developed Indian National Standards for Organic Production (NSOP) under the National Programme for Organic Production (NPOP) by APEDA, ensuring the quality and integrity of organic products in the country.

General principles of organic dairy production

Organic dairy production in general is a land-based activity and its integral part includes organic farm unit and management of dairy animals and the key principles of organic dairy production include:

Organic Feed: The dairy animals are fed organic feed, which is free from synthetic pesticides, herbicides, genetically modified organisms (GMOs) and is grown without the use of synthetic fertilizers and relies on sustainable farming practices. Dairy cattle under 9 months of age can have up to 20% of their feed from non-organic sources.

Animal Origin: Animals and products labeled as organic must originate from livestock managed organically from at least the last third of gestation. Breeds adapted to local conditions and resistant to diseases are preferred.

Pasture Access: Organic standards require that animals have access to pasture for grazing whenever possible. This allows them to engage in natural behaviour, obtain essential nutrients from forage, and contribute to soil health through grazing.

Animal Welfare: Organic dairy farming prioritizes the well-being of animals, ensuring they are raised in environments that allow for natural behaviour and minimal stress. This includes providing appropriate housing, access to outdoor areas, and minimizing the use of confinement practices.

Health Management: Instead of relying on antibiotics and synthetic drugs to prevent disease, organic dairy farming focuses on preventive measures such as proper nutrition, hygiene, and management practices. If an animal does require treatment, organic standards mandate the use of approved natural remedies/ethno-veterinary practices.

Waste Management: Producers must manage manure to prevent contamination of crops, soil, or water while optimizing nutrient recycling.

Record Keeping/Audit Trail: Organic livestock operations must maintain records for financial management and verification of organic status. Records must be kept for five years and demonstrate



compliance with organic standards and regulations. Records are mandated to be maintained for 5 years, and must demonstrate compliance with the organic food production standards and acts, if any in place.

Conversion period: When a dairy farm, including the entire herd, is transitioning to organic practices, pasture and feed produced on the land must undergo a minimum conversion period of 12 months before being considered organic for feeding to organic livestock. The conversion period starts from the date of the initial inspection

Breeding methods: Breeding practices must adhere to the principles of organic farming and consider the following:

- Preference for breeds adapted to local conditions.
- Emphasis on natural reproduction methods.
- Permission for artificial insemination.
- Prohibition of embryo transfer techniques and the use of hormones.
- Exclusion of breeding methods involving genetic engineering.

Environmental Safeguarding: Organic dairy farming practices aim to minimize environmental impact by reducing chemical inputs, conserving natural resources, and promoting biodiversity. By prioritizing soil health and ecosystem balance, organic dairy farming contributes to sustainable agriculture.

Is organic dairy farming a sustainable approach?

In recent years, there has been an increased focus on organic dairy farming, particularly regarding its long-term sustainability in terms of production and productivity. Despite significant growth and scientific advancements in the sector, doubts remain among farmers about its adoption. However, organic dairy farming offers a holistic approach that fosters a profound balance between soil health and animal welfare. Organic dairy farming, specifically, presents numerous benefits for both farmers and consumers. It provides a safe socio-economic environment for farmers by minimizing exposure to hazardous chemicals and enhancing consumer health through the production of environmentally safe and chemical-free food products. The comparison between organic and conventional dairy farming highlights advantages in environmental impact, public health, market potential, safety, nutritional standards, animal welfare, and social sustainability. Despite potentially higher prices in the market, organic dairy products are in high demand due to their superior nutritional quality and freshness. Retail chains worldwide are seizing the opportunity presented by the growing demand for organic products, resulting in market expansion and increased revenue. Organic dairy



production is recognized as a crucial component of sustainable rural development, fostering income generation and the conservation of agro-ecosystems. Moreover, organic dairy farming exhibits greater water efficiency, resilience to drought, and minimal issues related to soil degradation. Its emphasis on preserving agro-ecosystems and reducing external inputs contributes to enhanced biodiversity and resilience to pests, diseases, and climate change. When comparing milk production and feeding ratios, organic dairy farming demonstrates higher milk production despite lower feed supply, along with reduced calf mortality, mastitis, abortions, respiratory issues, and tail wounds. Pasture-based and low-input organic dairy systems are regarded as socially and environmentally reliable. Therefore, organic dairy farming embodies a sustainable approach that addresses challenges of food security and sustainability. Its emphasis on holistic practices, environmental safeguarding, and animal welfare makes it a viable and promising pathway towards a sustainable future in dairy production.

Conclusion

The demand for natural, chemical-free products, especially in the organic food sector, has experienced a significant surge in recent years. This increase is fuelled by a growing emphasis on wellness, nutrition, and environmental sustainability. This trend has been amplified during and after the pandemic, as consumers prioritize products that offer health benefits and align with their values regarding animal welfare and environmental conservation. However, the widespread adoption of organic animal husbandry in India faces several challenges. These include a lack of knowledge among farmers about organic practices and certification requirements, compounded by limited access to information due to language barriers and the dominance of English-language resources. Additionally, issues such as small farm holdings and the inability to certify landless animal husbandry operations present significant obstacles to organic livestock production. Government intervention through technical assistance and policy support is crucial to address these challenges. Incentives for sustainable production and support for small-scale certification initiatives can help small farmers access organic markets and overcome barriers to certification. Despite these challenges, the organic animal husbandry industry in India shows promise, buoyed by expanding distribution channels, rising incomes, and increasing adoption of organic farming practices among farmers.

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