

**Indian Farmer**

Volume 10, Issue 09, 2023, Pp. 407-410  
Available online at: [www.indianfarmer.net](http://www.indianfarmer.net)  
ISSN: 2394-1227 (Online)

**Original Article****Good Management Practices for Successful Dairy Farming in India****Rathod Akash***Department of Animal Nutrition, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly**Corresponding author: [skyrathod5661@gmail.com](mailto:skyrathod5661@gmail.com)**Received: 25/08/2023**Published: 10/09/2023***Introduction**

Dairy farmers are integral to a large dairy food production and processing chain. The participants involved in the dairy food production chain that is, dairy farmers, suppliers, milk carriers, haulers, dairy product and food manufacturers, distributors, retailers and consumers, should be part of an integrated food safety and quality assurance management system. The profitability and protection of human health, animal health and the environment must be taken care of by the dairy farm production system. Dairy farmers, who are the primary producers in the supply chain, should be allowed to add value to their products by adopting those methods of production which ultimately satisfy the demands of both manufacturers and consumers. Good management practices provide a proactive insight to individual dairy farmers on how the above objective can be achieved on farms.

**The basis for good agricultural practices**

The dairy farmers must be assured about the safety and quality of milk they produce, because these farmers are involved in providing food for human consumption. Implementing Good Agricultural Practices in dairy farm production involves applying sound hygienic practices on dairy farms, collectively called "Good Dairy Farming Practice", is of utmost importance. These practices must ensure the safety of milk and milk products, the appropriateness of their intended use, and the future economic, social, and environmental viability of dairy farm enterprises. Good dairy farming practices enable milk production, which meets the standards of the food industry and customers. Dairy farmers should ensure that good dairy farming practices are implemented at the farm level.

The Codex Recommended International Code of Practice, that is, General Principles of Food Hygiene (CAC/RCP 1- 1969, Rev. 4, 2003)<sup>1</sup> and the Codex Code of Hygienic Practice for Milk and Milk Products (CAC/RCP 57-2004)<sup>2</sup> provides an international framework for ensuring the safety and suitability of milk and milk products. A good dairy farming practice uses the principles given by Codex related to milk production in farms.

Dairy farming practices ensure that healthy animals produce milk sustainably and responsibly. Thus, implementing good dairy farming practices is an effective risk management strategy to be followed in dairy farming enterprises for short and long-term benefits. Good management practice encourages dairy farmers to take "proactive" preventative measures to stop the generation of various food-related issues in the industry.

**Objectives and Scope**

The utmost important objective of good dairy farming practice is to produce safe, high-quality standard milk from healthy animals using sustainable management approaches in terms of animal welfare, social, economic, and environmental perspective.

Dairy farmers need to adopt best practices in the following areas to achieve the objective:

- Animal Health
- Milking hygiene
- Nutrition (feed and water)
- Animal welfare
- Environment
- Socio-economic management

**1) Animal Health**

The milk-producing animals should be healthy, and an adequate healthcare programme should be followed to maintain good health. The establishment of disease resistant herd should be done. For this purpose, selecting those animals and breeds should be made, which can adjust according to local environmental conditions and farming system. Determining herd size and stocking density based on management skills, local environmental conditions, and availability of inputs like land,

infrastructure, feed, and others should be done. A proper vaccination protocol, as suggested by the veterinarian, should be followed. The prevention of disease entering the farm should be considered seriously. Proper biosecurity measures for keeping the animals healthy should be followed. The purchase of only those animals that have a known health status (both herd and individual animals) and the use of quarantine measures before introducing animals into the farm should be ensured. While transporting the animal on and off the farm, care should be taken to prevent disease introduction to the farm. The proper monitoring of risks from adjacent land and neighbours should be done. Limiting the access of people and wildlife to farms should be considered. The control of vermin in the farm environment should be checked by implementing a vermin control programme. An effective health management programme should be followed to ensure food safety and security for early disease identification and further prevention of its spread. A proper identification system should be adopted in farms which allow the animals to be identified individually from birth to death. A regular check should be kept on animals for some abnormal signs related to disease, and the animals depicting abnormal signs should be isolated. The milk obtained from sick animals and animals under treatment should be separated. The records of treatment should be written appropriately. The diseases which can transfer from animals to humans or humans to animals (zoonotic diseases) should be efficiently managed. The occurrence of chemical and antibiotic residues should be prevented by the use of directed chemicals and veterinary medicine only. The chemicals approved for supply and under appropriate legislation should be used in farms. The treatment of animals should be done with the medicines prescribed by veterinarians. The chemicals and veterinary medicines should be stored securely and disposed of sensibly.

## **2) Milk hygiene**

Hygienic measures should be followed during milk collection and storage. The milking equipment and storage container should be efficiently cleaned and dried. The milking routines should ensure that they will not cause any injury to animals and will not introduce any contaminant into milk. The identification of animals which require special milking management should be made. Potable water supply and proper udder cleaning before milking should be ensured. The milking of animals should be done regularly. The milk from sick or treated animals should be segregated and properly disposed of. The hygienic conditions carried out on the farm should be adequately ensured. The environment in which animal is kept, and the area for milking should be regularly cleaned. The milkers or farm workers should follow the common and important hygienic measures. The cleaning and disinfection of milking equipment after milking should be ensured. The efficient handling of milk after milking should be ensured. The storage area of milk containers should be clean and dry. The milk storage container should be adequate enough in volume to hold the milk at specific temperature conditions. The milk should be delivered for further processing within a specified duration.

## **3) Nutrition (feed and water)**

The feed offered to the animal should be of good quality, full of nutrition and safe, while the water offered to the animal should be potable. Adequate amounts of feed and water should be given to animals. Sustainable nutrient, irrigational and pest management practices should be implemented while growing feed. Feed and water should be of adequate quality and quantity to keep the animals healthy. Also, the water supplies and feed should be protected from chemical and biological contamination. The feed given to milking animals should not negatively affect food safety and quality. Water suitability and its supply should be monitored at regular intervals. The equipments used for handling chemicals and feed stuffs should not be the same. The appropriate use of chemicals on pastures, land and forage crops, and observation of withholding periods should be ensured. The approved chemicals for animal feed treatment should be used. The animal feed should be appropriately stored to prevent contamination from microbes or toxins. The appropriate storage conditions are needed to prevent spoilage of feed. Also, the rejection of mouldy feed or sub-standard feed should be done correctly. The traceability of feedstuffs which are brought into the farm should be ensured. This will ultimately ensure the feed quality and prevent the use of unsuitable feeds. The animal feed should be bought from companies following approved quality assurance protocol. The proper record of farm feed and feed ingredients should be kept.

## **4) Animal welfare**

The most important aspect of animal welfare is the "five freedoms" that must be followed wherever animals are kept. The five freedoms include:

- Freedom from thirst, hunger and malnutrition
- Freedom from discomfort
- Freedom from pain, injury and disease
- Freedom from fear
- Freedom to engage in relatively normal patterns of animal behaviour

a) The freedom "Ensure animals are free from thirst, hunger and malnutrition" should be followed to keep animals in a healthy state and proper production potential and to attain this, the animals should be provided with sufficient feed and potable water regularly. To ensure a proper supply of feed and water, the stocking density should be well adjusted. Protecting animals from toxic plants and other harmful substances should be ensured.

b) The freedom "Ensure animals are free from pain, injury and disease" should be followed to ensure better sanitary conditions. To attain this freedom, regular inspection of animals and application of an effective herd health management programme should be made. The procedures which inflict unnecessary pain should be avoided. An appropriate birth and weaning protocol should be followed to avoid injuries. For marketing young dairy animals' proper procedure should be followed. Milking of animals regularly, protection from lameness and avoiding unnecessary pain or stress to animals while euthanizing should be considered.

c) The freedom "Ensure animals are free from fear" should be followed to ensure animal and human safety. While planning for farm infrastructure and various herd management practices, animal behaviour should be considered. A skilled farmer or worker knowing good animal handling practices should be employed in the farm.

d) The freedom "Ensure animals can engage in relatively normal patterns of animal behaviour" should be followed to preserve animals' gregarious behaviour, such as preferred sleeping positions and other social behaviours. The herd management procedures followed in the farm should not unnecessarily affect the animals' resting and social behaviour.

## **5) Environment**

Efficient milk production can be assured if it is done in harmony with the surrounding environmental conditions of the farm. The implementation of an environmentally sustainable farming system should be done to ensure that the dairy farming procedures follow government and community expectations. Efficient and sustainable use of farm inputs like water and nutrients should be done. The environmental pollutants originating from dairy farming should be reduced. The selection and usage of energy resources should be appropriately made. Maintain and encourage enough biodiversity in the farm area. An appropriate waste management system should be there on the farm to minimize the environmental impact of dairy farming practices and to comply with relevant regulations. The strategies to reduce, reuse, or recycle farm waste must be well implemented in dairy farms. The storage and disposal of wastes to reduce the impact on the environment should be appropriately managed.

It should be ensured that dairy farming practices do not adversely affect the local environment, reducing the environmental impact of milk production and promoting a positive image of dairy farming. Appropriate agricultural and veterinary chemicals and fertilizers should be used to avoid local environmental contamination.

## **6) Socio-economic management**

Dairy farming provides economic and social benefits to farmers and their wider communities. Good dairy farming practices can help in managing the social and economic risks involved in the enterprise. Effective and responsible management of human resources should be done. This will ultimately ensure a boost in worker productivity, protect the workers from exploitation, make personal tasks manageable, and reduce the danger to employees, livestock, infrastructure and the environment. The working staff should be selected based on national laws and policies. The working conditions of staff should comply with applicable laws and international conventions. It should be ensured that the farm working environment meets all applicable occupational health and safety regulations and also the farm tasks are carried out safely and competently to reduce risks to staff, livestock and infrastructure. The appropriate procedures and equipment should be in place for dairy farming activities. The trained staff should be employed as they can carry out their work competently. The enterprise should be effectively managed to ensure its financial viability. The adoption of agricultural practices which contribute to the productivity goals of the enterprise should be followed.

## **Conclusion**

Good Management Practice (GMP) and Quality Assurance (QA) are the methods which aim to implement the best procedures for a specific set of tasks in order to achieve a desired result. The running of a dairy farm is very complicated, as we must keep many things in mind to ensure milk safety from harmful microbes, toxins, and chemical and antibiotic residues. Despite the challenges inherent in correctly enacting these procedures, successfully applying GMP and quality assurance will yield the short and long-term positive results.

## **References**

- 1) FAO and IDF. 2011. Guide to good dairy farming practice. Animal Production and Health Guidelines. No. 8. Rome.
- 2) Moran, J. and Chamberlain, P. 2017. Blueprints for Tropical Dairy Farming: Increasing Domestic Milk Production in Developing Countries. CSIRO PUBLISHING.