

	<p>International Journal of  <b>Innovative Drug Discovery</b></p> <p>e ISSN 2249 - 7609          Print ISSN 2249 - 7617</p> <p><a href="http://www.ijidd.com">www.ijidd.com</a></p>
---	---

## GAP / GMP TECHNIQUES IN MILK PRODUCTION

**Rita Narayanan\***

Associate Professor, Department of Dairy Science, Madras Veterinary College, Chennai, Tamil Nadu – 600007, India.

### ABSTRACT

An efficient dairy enterprise combines profitability with the responsibility of protecting human health, animal health, and environment. The primary producers in the supply chain must be given the opportunity to add value to their product by satisfying the demands of processors and customers. Thus, an individual dairy farmer needs to be armed with the knowledge as to how to achieve this at a practical farm level.

**KEY WORDS:** GAP / GMP, Milk Production.

### INTRODUCTION

Mentioned below are some of the principles applying to production, processing and handling of all milk:

- Starting from the raw material production to the point of consumption, all dairy products should be subject to a combination of control measures. These measures (good agricultural practice – GAP and good manufacturing practice-GMP) should meet the appropriate level of public health protection.
- It is mandatory that Good hygienic practices should be applied throughout the production and processing chain so that milk and milk products are safe.
- Hygienic practices for milk and milk products should be implemented following the Annex to the Codex Recommended International Code of Practice – General Principles of Food Hygiene.
- Good dairy farming practices should contribute to ensuring milk and milk products are safe.

### Animal Health

Lactating animals need to be healthy and an effective health care programme should be in place.

### Prevention of Diseases

Animal health is of prime importance in a dairy farm. Animals of known health status should be purchased. A closed herd prevents the movement of infectious diseases in the farm. Cattle should be screened for diseases, before introduction into the herd. This requires an identification

system to enable traceability of animals. Quarantine of new cattle is an important protocol to be followed prior to introduction into the herd. Records of all animal movements to and from the farm should be maintained.

The following are some of the consideration

- Secure boundaries/fencing
- Containment of animals to ensure there is no risk of disease spread between farms and within farms.
- Limit access of people and wildlife to the farm.
- Restrict access to minimize disease spread.
- Use of protective clothing and footwear.
- Rodent control programme. in place.
- Sanitization of all dairy equipment.

### Herd health management programme

An identification system that allows all animals to be identified individually from birth to death must be in place. Identification systems used should allow individual animals to be identified from birth to death. Vaccination schedule must be followed to prevent the spread of diseases and improve herd health status. Prophylactic treatments may be required as protective measures when no viable alternative strategy exists.

### Monitoring animal health

All animals must be regularly observed for any infectious disease. Many metabolic and physiological diseases are associated with irregular reproductive cycle-. It is essential that a detailed breeding record be maintained and animals

observed at appropriate stages. Disease, injury and poor health after accurate diagnosis must be addressed. Diseased animals must be treated appropriately to minimize the prevalence of infection and the source of pathogens. Sick animals should be Isolated from healthy animals and treated and observed. Records of all treatments must be religiously documented.

#### **Judicious use of chemicals and drugs**

Only permitted chemicals in the form of veterinary drugs and disinfectants / sanitizers in the farm must be used. This would minimize residues of any chemical administered and used such as detergents, disinfectants, anti-parasitics, antibiotics, herbicides, pesticides and fungicides.

#### **Training to personnel**

Training should be imparted to farm hands to identify sick animals. It is important to ensure a consistent approach to herd health, to understand animal health strategy of the farm.

#### **Milking hygiene**

Milking is the utmost important activity in a dairy farm. Consumers demand high standards of milk quality, so milking management aims to minimize microbial, chemical and physical contamination. Milking routines should not injure cows or introduce contaminants in milk. Milking should be carried out under hygienic conditions. It should also be noted that milk should be handled for safe microbial and chemical standards until it reaches the processing plant.

#### **Udder preparation for milking**

The udder of milch milk cows should be washed and dried before milking. Clean water should be available throughout the milking time. . Udder and teats must be examined for any changes (for example clinical mastitis). Before a cow is milked, the foremilk should be extracted and checked for abnormalities.

#### **Milking Barn Hygiene**

Ensure clean housing environment. A reasonably good standard of cleanliness should be maintained at all times in the housing area.

The following are some of the points to be considered for constructing housing

- Designed to provide good drainage and ventilation
- Avoid overcrowding to prevent animal injury.
- Adequate manger and feeding space designed to match the size of the animal.

#### **REFERENCES**

1. Codex Alimentarius, Food Hygiene and Basic Texts, Fourth edition ISBN 978-92-5-105913-5.
2. Codex Recommended International Code of Practice- General Principles of Food Hygiene, CAC/GL 61–2007, 1-28.
3. Codex Draft Code of Hygiene Practice for Milk and Milk Products. CX/FH 99/5.
4. Codex code of Practice on Good Animal Feeding. CAC/RCP 54-2004.
5. FAO Food Quality and Safety Systems- A training manual on food hygiene and the HACCP, Publishing Management Group, FAO Information Division, 1998.

- All stalls and beds should be kept clean and dry, with adequate bedding.
- Removal and drainage of dung and urine

#### **Milking area**

The milking area should be:

- Easy to clean
- Have a clean water supply
- Have waste handling facilities
- Have sufficient temperature regulation and light

#### **Milkers basic hygiene**

The milker should

- Wear suitable and clean working clothes
- Keep hands and arms clean especially when milking
- Cover cuts or wounds
- Not have any infectious diseases
- Not have any unhygienic habits

#### **Handling of milk after milking**

Milk should be cooled in the specified time. Cool the milk as soon as possible after milking to the require storage temperature (4-5°C).

#### **Milk storage area**

Milk should be stored away from the milking area.

The milk storage area should

- Be clean and clear of accumulated rubbish
- Have hand washing and drying facilities
- Easy to clean and have a rodent and pest control system

#### **Milk storage equipment**

Milk storage equipment should be cleaned before each use, preferably immediately after milk collection. The storage equipment should be capable of holding milk at required temperature until collection time, and be constructed in materials that do not taint the milk. Bulk tanks should be built to the permitted standards. Milk refrigeration systems should have a regular maintenance and service programme to prevent breakdowns. The bulk tank should be equipped with a thermometer to check the temperature of the milk and appropriate records kept of storage temperatures.

#### **CONCLUSION**

Thus, an individual dairy farmer needs to be armed with the knowledge as to how to achieve this at a practical farm level.

6. IDF GMP Code for Milking Automatic Milking Systems, Bulletin of the IDF No. 386/2004, ISSN 0250-5118.
7. OIE Code of Animal Health, Terrestrial Code, 23rd Edition, 2014, ISBN of volume I: 978-92-9044-934-8, ISBN of volume II: 978-92-9044-935-5.