

Role Of Herd Health Management In Dairy Farming

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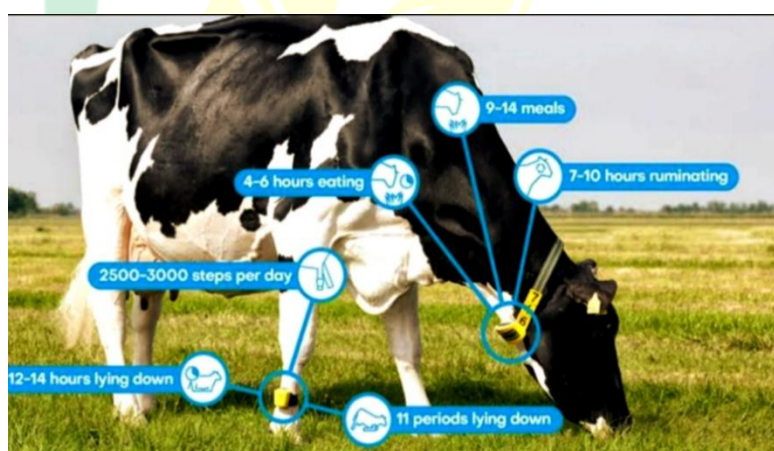
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1. Introduction and Overview

Herd health management is one of the foremost important components of total herd profitability and welfare. Maintenance of an appropriate environment, adequate nutrition, sanitation and vaccination are important for health management. Sound management, additionally to reducing the prospect of injury or exposure to potential pathogens, provides conditions that enhance the animal's ability to make or acquire immunity to prevalent diseases. It's important to remain vigilant for health problems within the herd. This may be achieved by general observation of animals, observing factors like changes in behaviour (e.g., separation from the group, excitation), voice, feeding (e.g., reduced feed intake, abnormality in rumination), defecation (constipation or diarrhoea), urination, posture, gait and body condition. The dairy industry relies mainly on the farm's economic volatility. The well-being of the herd encompasses an enormous effect on the farm's economic profile. Both of them are inter-related. The word herd health might be a program for the intended management of animal health and production. It uses a combination of regularly scheduled veterinary activities and good programs for herd management. The goal of herd health management programs is to validate the optimal care and well-being of milk cows and to reduce losses in productivity caused by disease and management errors. Groups of diseases like clinical, subclinical, acute, chronic should be treated at the bottommost of the disease control program. Mastitis, lameness, milk fever, retained placenta, displaced abomasum is common

incidences of clinical diseases that affect the health of herds. The subclinical diseases are difficult to discern. To look for the frequency of subclinical infection, use screening tests like culture or somatic cell count for mastitis or ELISA for Para Tuberculosis. Intolerance of diseases like rabies, brucellosis, tuberculosis requires regular herd screening and culling of the positive cases or herd occasionally. The effect of the health and productivity of the diseased herd is increased culling, decreased milk or protein production, increased mortality of adult cows, decreased reproductive performance. The structure of health management programs is exclusive to each farm but is frequently keyed to the scheduled veterinary herd visits that combine routine reproductive examinations, review of selected herd performance records, and decisions and actions related to specific herd management issues. Dairy Herd Management is one of the utmost important aspects for Dairy farms that maintain long-term high production. They have to successfully manage several key factors: cow nutrition, reproduction, milking and well-being. This article outlines the principles of properly managing a dairy herd to sustain high milk production and happy cows.



1. Nutritional Management

The first step of scheduling nutrition is to acknowledge exactly what quantity to feed your cows. Remember, your cows always must be taking in additional nutrients than they're producing in milk. When planning feed consumption, the industry-standard measures food built on its dry matter content or how considerably it weighs when all the water is extracted. Follow these guidelines for in what manner each category of cow needs:

- Non-pregnant adult cows: 1.2% of the weight



- Pregnant, non-lactating cows: 2% of the weight
- Milking cows: 1.2% of weight plus 5 kg per 10 litres of milk produced.

You see that properly managing feed means carefully monitoring milk production and weight. If you would like your cows to attain peak lactation, you'll ensure they're getting sufficient high-quality feed.

1.1.The Principles of Food Nutrition

The first principle of cow nutrition is to make sure that cows get sufficient energy, which they'll get through starch and fats. Computation on what reasonably feed is available in your region that starch may derive in the form of wheat, maize, barley, sorghum, or other grains. The fermentation of grain is what produces lactose within the milk. Cows also need fat – up to 6% of their ratio. Sources of fat include cottonseed, brewer's grain, and oils. In general, solid fats are better for cows' digestion than liquids. Cows also need a daily intake of vitamins. Most fresh forage naturally contains the vitamins and minerals that cows need at sufficient levels. Still, you may need to add supplemental vitamins during off-seasons once you are using the dried feed.

1.2. Feeding Management

Cows must have constant access to high-quality feed and clean water. Milking cows each need 60-70 litres of water every day, plus an additional 4-5 litres per litre of milk produced. To accomplish this, they need to have consistent access to water troughs. A cow drinks an enormous percentage of their daily water needed right after milking, so it's essential to entail plenty of trough space as cows leave the milking parlour. Likewise, fresh forage should be consistently available. There should always be quite enough space for each cow to access the forage, so dominant cows don't bully younger ones and stop them from eating. In general, you must feed with forage first, and then supplement with nutritional concentrates. A universal rule is to feed 1 kilogram of concentrate for every 2 kilograms of milk a cow produces. This ensures that they're receiving enough nutrients.



2. Reproductive Management

2.1. Goals and Planning

Effective reproduction management requires effective planning regardless of how large or small, each dairy farm should have a detailed routine for monitoring cows. Regular farm records will also aid you to expect when cows are in heat. This ensures that you constantly know which cows are in heat, are pregnant, or show signs of disease. You ought to even have plans in place for cows to undergo the transition period and to deal with any health issues that occur during pregnancy.

2.2. Heat Detection – Using the Latest Technology

Determining when cows are in heat is the cornerstone of maximizing reproduction. Some farms simply train staff to monitor cows visually. Standing to be mounted is an obvious sign of being in heat. Cows in heat may also have mucus discharge and become restless. This restlessness enables heat to be detected by activity monitors. Much like human pedometers, activity monitors track how much a cow walk. Peaks in activity can indicate a cow in heat. Using pedometers on cows eligible for heat can lead to a higher rate of heat detection and more efficient breeding.

(A)



(B)



(C)



***Note: A = Estroprotect heat detector, B = Levelled animals, C= Approaching behaviour of oestrus**

3. Dry Cow Management

It is also important because the risk of postpartum diseases is present during the dry period. Diseases like milk fever, hypomagnesaemia, udder edema, ketosis, displaced abomasum, mastitis should be looked after at. Preventive measures such as vaccination, hoof care, nutrition should be used. Their feeding should start at 2-3 weeks before calving. This is called transition feeding. As non-lactating cows require low nutrients, they are fed with low forage but more nutrient-rich feed. This feeding helps the rumen to adapt to a low forage and nutrient-rich diet and to cope with pen and calving transition stresses. For their recommended dry time, the animals should be handled and watched out for. Too long or too short a dry period affect herd health. For avoiding these, reproductive record books should be routinely recorded and timely reviewed.

4. Principles of Cow Comfort

Cows need to be comfortable to have high production. A comfortable environment must provide the following:

- Clean, dry bedding
- Room to lie down

- Shade in the heat
- Non-slip flooring indoors

It should include optimal housing conditions. Highly produced animals have a high intake of dry matter, produce more internal heat, and are less tolerant of high ambient temperatures. With wide-open sides and high ends and the use of fans and sprinklers, the housing structure should be designed to keep cows comfortable.

Cross Section Housing for Cattle

5. Scheduled Farm Management Practices and Veterinary Care

Activities or practices at the farm for good management are Routine feeding schedule of various sections of dairy animals at the farm, timely vaccination for the common clinical outbreak causing diseases, a screening test should be performed for the same, control of parasite by cleaning and spraying of disinfectant at animal sheds, hygiene control by routinely cleaning of the sheds, mastitis sampling for each shed and tuberculosis testing, fly control, daily treatment including dressing, drug injections should be given to sick animals, isolation of sick animals, culling of sick non-producing animals, unnecessary visitors at the farm should be avoided, timely reproductive practices. Veterinary services should be provided immediately in the case of emergency outbreaks. To prevent outbreaks, regular disease monitoring should be used. The use of medications and disposal should be carried out in a manageable way.



6. Milking Management at the Farm

6.1. Milking Tips

Milking is never as simple as connecting cows to the equipment. The following tips will help to make milking as efficient and low-stress as possible:

- Cows are susceptible to stress – farm staff should try to maintain a calm, quiet environment.
- When moving into the milking parlour, keep cows moving slowly to avoid slipping.
- Teats should be clean and dry before being connected to milking equipment
- Teats should be treated with an antiseptic after milking to prevent disease
- Milking equipment should be checked daily by looking for vent blocks and watching milk flow
- Milking equipment should be cleaned with water and sanitiser.

It includes managing various milking routines at the farm. Observation of routine milking parlour should be done. For the preservation of high-quality milk and the identification of udder issues in herds, animals used for milking should be observed. It involves scoring through milk testing of various milk produced from animals. Milk quality assurance program should include hygiene milking of animals, cleaning of milking parlour; use of drugs for the treatment of milking animals, mastitis control program, and hoof health should be maintained to avoid lameness.

7. Mastitis:

Mostly bacterial infections, different species of bacteria causing mastitis are – *Staphylococcus aureus*; *Streptococcus agalactiae*; and other Streptococci, Coliform bacteria, Pseudomonas, etc. Udder becomes hot, painful, swollen and hard. Milk secretion is reduced and watery at the beginning, and later, it becomes purulent. Fever is also common in acute cases.

7.1. Prevention and Control

Strict hygiene and sanitary conditions of the farm should be maintained. Dry full hand milking should be adopted. Milking machine if used should be germ-free. Udder and teat should be rinsed before and after each milking with a mild antiseptic solution.

Mastitis Control Program is used for screening acute or chronic mastitis. To know which teat carries mastitis infection, CMT testing is performed. For testing, milk should be used. The udder sample can show enormous leukocyte infiltration. It is important to begin care of these animals efficiently and immediately.



A cow suffering from Mastitis

8. Investigation

Even on the best-managed farms, unexpected health and production problems arise. Surveillance programs should incorporate to detect problems early. Uses of the epidemiological concept of disease outbreaks are helpful in the detection of these before any serious financial problem occurs.

9. Summary (Conclusions)

Proper execution and smartplanning are needed for effective herdhealth management. In the preventionof parasitic infections, supervision of parasites by using drugs is beneficial.For efficient execution of herdhealth programs, trained labour is necessary. Routine feeding should beeffective. In animals, medicationsshould be cautiously used. A farm shouldbe well



equipped for an outbreak. How well managed a herd is depended on how well they perform during an outbreak.

