Popular Article

Dairy Management for Enhance production

Dinesh Kumar Sunwasiya and Vishakha Uttam
Division of Animal Genetics and Breeding, ICAR- National Dairy
Research Institute, Karnal, Haryana, India, 132001

Abstract

India continues to be the world's top milk producer. The Government has taken a number of steps to improve livestock productivity, which has led to a large increase in milk output. Milk output is expected to increase by 5.81 percent year between 2019–20 and 2020–21 (provisional figures). It will be 198.44 million tonnes and 209.96 million tonnes, respectively. In 2020–21, there will be around 427 g. of milk per person available (Provisional). Using management decision tools, precision dairy management continuously and automatically monitors animal welfare, production efficiency, growth, and other factors. The potential for increasing dairy animals' overall output is provided by precision dairy management

Precision Dairy management application

The use of biosensors and miniaturized electronic mechanics, improved data collecting, and the facilitation of more precise decision-making actions are found in the use of Precision Dairy management.

Precision Dairy management technology

1. Radio frequency identification
2. Automatic milking
3. Milk yield recording
4. Milk component and conductivity monitoring
5. Pedometer
6. Automatic temperature recording
7. Automatic estrus detection monitors
8. Body weight measurement

Radio frequency identification

In order to avoid animal cruelty, prevent theft and fraud, and trace animals and goods back to their source, accurate identification of animals and their products is crucial. Animal agriculture's necessity for quality assurance and welfare administration was what was generating the continually increasing demand for animal identification and traceability.

Robotic milking system

In 1992, it was first used on dairy farms in the Netherlands. A decrease in labour costs for milking is the main advantage provided. When using an automatic milking system, cows may typically be milked up to three times daily, which can boost milk production by 3 to 11% compared to the conventional twice-day milking approach.

Heat detection

The DEC® System is a piece of technology used to identify cow oestrus. Its basic idea is based on the electrical detection of standing mounts that oestrus-accepting cows accept.

Pedometer

A basic commercial pedometer that has been used for activity or step counting in the dairy cattle industry for around 30 years is the foundation for the activity, laying time, and temperature pedometer, an animal data collecting system.

Biosensors

The use of Biosensor for disease detection, drug residue detection in animal products, ovulation prediction, and heat detection is possible.

Lameness detection

In terms of cost or effects on performance and animal welfare, few diseases compare to lameness. Gait analysis based on machine vision using image processing software, resampling condensation, and hidden Lameness in dairy cows has also been identified using Markov models.

Conclusion

Technologies for precision dairy management have the potential to increase the output of dairy cows. It would assist in overcoming challenges to the adoption of these technologies in India. Sensitizing the key players to step forward and pay for some of the technologies is considered necessary.

References

Eradus W.J., and Jansen M.B. (1999). Animal identidication and monitoring. *Computers and Electronics in Agriculture.* 24:91-98.

Kataktalware M.A., Kumar R., Kumar P. and Devi. G.L. (2017). "Precision dairy management for enhance productivity" paper presented in ICAR Sponsored Winter school "Innovation approaches for conservation and improvement of indigenous bovine genetic resource in modern IPR era under changing climate scenario" on 8-28 November, 2017.

Voulodimosa A.S., Patrikakis C.Z., Sideridis A.B., Ntafisb V.A. and Xylouri E.M. (2010). A complete farm management system based on animal identification using RFID technology. *Computers and Electronics in Agriculture*, 70:380-388.