Digital innovations to develop monitoring indicators for infertility issues in dairy animals

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Abstract

India is the highest milk producer in the world, with an annual production of 230 million tons and a bovine population of 300 million. Despite being number one in milk production, dairy productivity in India is exceptionally low (1172 liters per lactation). The major factors that influence low dairy productivity are poor reproductive performance, a lack of quality feed and fodder and poor animal healthcare facilities. Suboptimal and poor reproductive performance, such as less production, anoestrus, long dry period, and less lactations and escalation in management cost results in poor reproductive efficiency in dairy cattle and consequently, 20–30 million tons of milk are lost annually, which amounts to a loss of INR 50000 crores. Many digital tools are dawning in India for collecting data on reproductive performance in dairy animals. This study was aimed at understanding the use of digital tools in monitoring the reproductive performance of dairy animals in southern India. The data were collected from 2123 cows and 135 buffaloes from 30 villages in Tamil Nadu state. Herd structure analysis indicated that 90 % of cows were Jersey and Holstein Friesian crossbreds and 46 % of cows and 30 % of buffaloes were milking. A higher proportion of animals were found in second to fourth lactation (59 %). A greater percentage of calves were observed in the buffalo population (60 %) than in cows (46 %). It was observed that 15 % of heifers were not inseminated up to 30 months of age, and 32 % of calves were not inseminated even after 6 months of calving due to problems such as anestrous, poor heat detection, and poor growth. Among the inseminated animals, 18 % of the 404 animals were found to be repeat breeders, which are inseminated more than three times. This data analytics was used for evidence-based extension activities to enhance the reproductive efficiency of dairy animals. It has been found that digital tools help healthcare providers and extension agents counsel farmers effectively.

Keywords: Dairy, digital application, digital innovation, infertility, repeat breeding

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