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Assessing smallholder farmers’ practices on dairy record-keeping in Indonesia

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Abstract

Record-keeping is important for dairy farm management to control and monitor livestock productivity. Therefore, this study aimed to investigate the record-keeping practices of Indonesian smallholder dairy farmers and the factors hindering them. The study collected questionnaire data from 82 smallholder dairy farmers in Cisarua, Malang, and Boyolali districts. We also conducted farm observations, focusing on daily farm activities. Statistical and descriptive analyses were performed using SPSS. The study predominantly involved males aged 17 to 65 who generally completed high school education. 74% of the participants had been actively engaged in dairy farming for over a decade, with an average of three lactating cows per farm. The results show that neither educational background nor farming experience influences farmers’ decisions to do recording at their farms. The quantity of sold milk was the most recorded parameter. The amount was determined by weight or volume, depending on the equipment used by the milk collectors, and was conducted twice daily in the morning and evening. This study identifies two recording methods implemented for milk sales: manual paper-based and automatic tools, which embed sensors and digital scales linked to a computer system. Reproduction, mainly insemination dates and pregnancy checks, were the second most frequently recorded parameters. Farmers typically write this information on walls, books, or housing barn information boards. Additionally, some cooperatives provide farmers with information cards about animal health and reproductive performance, such as previous health conditions, treatments, and insemination dates. The study also highlighted that no farmers keep individual cow milk production records. Lack of motivation, overwhelming data volume, and a shortage of data interpretation and analysis skills hamper recording activities. However, farmers are keenly aware of the necessity of gathering animal data and the importance of recording data for farm evaluation. An approach that may be considered is to educate farmers on the importance of record-keeping and provide them with information on how to interpret the data effectively. Furthermore, practical strategies such as leveraging digital technologies for data collection may resolve time-related obstacles to data input.

Keywords: Dairy farming, dairy record-keeping, Indonesia, milk production