ABSTRACT

Dairy production is a major livelihood strategy for poor households in Rwanda and contributes 28.0% to the agricultural Gross Domestic Product (GDP) and 4.0% to the national GDP (NISR, 2018). Among the smallholder dairy farms, those practicing zero-grazing hold the majority (92.0%) of the cattle population and supply the bulk of the domestic milk market demand (IFAD, 2016). However, the supply has not satisfied the local demand. The per capita milk consumption of 63.0 litres is still far below the 220 litres recommended by the Food and Agriculture Organization of the United Nations (FAO, 2013). The low per capita milk consumption is to a large extent due to low productivity of the national herd, and this is attributable to suboptimal fertility performance of zero-grazed cows on smallholder farms (Rukundo et al., 2018). This suboptimal performance has been explained as resulting from poor management practices but without identifying the underlying specific cause(s) involved. One likely area of management failure could be in managing uterine health, which is essential for success of breeding services. Cow uterine that is not healthy disrupts the uterine homeostasis and results in conception failures (Galvão et al., 2010). The zero-grazed cows on smallholder farms could be at risk of prevalent endometritis disease, a uterine disease in dairy cows occurring between the 21st and 90th days postpartum (dpp). To date, empirical evidence is yet to be presented in Rwanda to support the presence (or absence) of endometritis disease. The disease condition may occur in the form of clinical endometritis (CLE) and/or subclinical endometritis (SCLE). In positive cows, endometritis is associated with a substantial reduction in milk yield, discarded milk during treatment and withdrawal period and increased cost of veterinary treatment. In smallholder herds of Rwanda, these production losses are yet linked to endometritis disease, though could be a gross underestimation. Good knowledge of the management interventions (MIs) effective for prevention and control of endometritis could be disseminated to farmers for consequent improvement of animal welfare, productivity and profitability of their dairy herds (Renault et al., 2017). In extension service delivery, farmers could be the missing link in implementing and evaluating the effectiveness of MIs (Renault et al., 2017). Their perception of which MIs are effective for endometritis prevention and control would be informative for managing endometritis disease in the dairy herds. A study of prevalence of endometritis and associated influence on milk yield and control measures was implemented for zero-grazed dairy cows on smallholder farms in Gasabo district, Rwanda. Endometritis was diagnosed on 466 cows within their 21-60 dpp from 370 farms using the Metricheck Device (MED) to determine the presence and type of vaginal mucus (VMC) based on a score scale of 0 to 3. Cows scoring VMC≥1 were recorded CLE positive (Williams et al., 2005). Cytotape (CYT) was used to collect endometrial cytology samples in which the percentage of polymorphonuclear inflammatory cells (%PMN) was determined (Pascottini et al., 2015). Cows with ≥5% PMNs were recorded SCLE positive, whereas cows with VMC-0 and <5% PMNs were considered as healthy