

ABSTRACT

Endometritis is a postpartum uterine disease of cows that interrupts reproductive cycles resulting in suboptimal fertility, reduced performance and profitability of the dairy herd. The objective of the study was to estimate the perceived and observed prevalence of endometritis among zero-grazed dairy cows in smallholder farms in Rwanda. A snowball sampling method was applied in cross-sectional survey to obtain data from 370 farms on 466 cows within their 21-60 days postpartum (dpp). The survey, conducted from September 2018 to March 2019, simultaneously examined cows 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 $VMC \geq 1$ were recorded as clinical endometritis (CLE)-positive. Cytotape (CYT) was used to determine the percentages of polymorphonuclear cells (PMN) in endometrial cytology sample. Cows with $\geq 5\%$ PMN were recorded subclinical endometritis (SCLE)-positive, whereas cows with $VMC=0$ and $< 5\%$ PMN were considered healthy cows. At cow-level, endometritis prevalence was 70.2% with 67.2% CLE and 31.8% SCLE while at the herd-level, prevalence was 71.1% with 68.1% CLE and 34.4% SCLE. The differences between the diagnostic performance of the MED and CYT were significant ($p < 0.001$). Perceived prevalence by farmers was much lower (3.2%) and without agreement with the observed prevalence ($\kappa = -0.02$, $p > 0.05$). The highly observed prevalence and farmer underestimation of endometritis prevalence indicate knowledge gaps about endometritis. The extension service therefore needs to increase awareness and education among smallholder farmers about detection and management of endometritis.

Keywords: Crossbreds; Cytotape; Dairy cows; Exotic breeds; Metricheck; Rwanda