

Abstract

Dairy farming plays an important role in the agricultural sector in Kenya, contributing about eight percent of National Gross Domestic Product with an annual milk production of 3.43 billion litres. It supports the livelihood of approximately four million Kenyans through food provision, income generation and employment. However, milk production per individual animal in Kenya, averaging seven to nine litres/cow/day is low compared to the world's best at 10,133 litres/cow/year (28 litres/cow/day). The aim of the study was; to determine the effect of tick control, mastitis control, feed supplements and animal sheds on milk revenue of smallholder farmers in Kapsaret sub-County. The target population of the study was 4,226 smallholder farmers in Kapsaret sub-County. The sample size of the study was 232 smallholder dairy farmers from Ngeria, Megun, Simat, Kipkenyo and Langas wards. Primary data was collected using closed and open ended questionnaires. Data was analysed using SPSS version 25. Correlation research design was used to determine the relationship between variables. Spearman's rank correlation showed the strength of the relationship between variables in the study. Results were presented in tables, and descriptive statistics such as percentages and frequencies. The results indicated a positive and statistically significant relationship between variables and milk revenue as ($r=0.161$ & $p=0.017$), ($r=0.414$ & $p=0.000$), ($r=0.302$ & $p=0.000$), ($r=0.160$ & $p=0.000$) for tick control, concentrate feeding, mineral mix and open sheds, respectively. However, the study established a negative and statistically significant relationship for mastitis control and closed sheds with milk revenue as ($r=-0.152$ & $p=0.024$) and ($r=-0.234$ & $p=0.001$), respectively. All the variables had a VIF value of less than 10, indicating absence of multicollinearity. The regression equation established that when all variables were taken into account at zero level, milk revenue would be 10.820 units. The study concluded that tick and mastitis control, feed supplements and sheds affected milk revenue of smallholder dairy farmers in Kapsaret sub-County. The study recommended that smallholder dairy farmers need to be trained on the best and timely preventive measures of tick borne diseases such as east coast fever. The study recommended the use of commercial concentrates, homemade concentrates and mineral mix in order to increase farmers' milk revenue. The study also recommended the need to increase extension services in order to create awareness on mastitis disease and the importance of animals' welfare especially among the smallholder farmers.