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FACTORS INFLUENCING HEALTH AND PRODUCTIVITY IN CATTLE CALVES IN NORTHERN MALAWI

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A cattle health and productivity study was conducted in northern Malawi to identify factors limiting production in cattle. Multivariate analysis indicated that calf mortality was mainly associated with age of the calves, tick-borne disease and the type of water supply. Calf body condition did vary between ecological zones, but both variables were not included in the final model, possibly because of a confounding relationship between tick-borne disease and these parameters.

Cattle health and productivity was monitored in 19 randomly selected herds representing the major ecological zones Lake Shore, Highlands and Plains region of the Mzuzu Agricultural Development Division in Malawi between May 1993 and August 1994. Herds were visited at fortnightly intervals and information on various health and production events was collected.

During the data collection period a calf mortality of 28.9% was recorded with the mortality being highest with almost 40% in the Highlands and lowest with 11% in the Plains. Mortality did vary with age of the calves, but was highest with 12.5% during their first month of age. Calvings occurred throughout the year, but peaked during June and July with 15% and 20% respectively. The two major causes of calf mortality were East Coast Fever with 44% and ill-thrift with 41% of all confirmed diagnoses.

The average birth weight of calves was estimated as 17.4 kg. Thirty-seven percent of farmers did not milk their cows at all. Of the ones that did 67% consumed or sold the milk. Calves are often kept separate from the cows during the night. As a consequence only very little milk is left to feed the calf which in turn results in poor body condition and disease resistance. During a statistical analysis it was found that type of milk supply for calves was significantly associated with the risk of calf death. Daily weight gain in calves was highest during the wet season, between January and April. Average daily weight gain during the first month of age varied considerably between the three regions, being highest in the Plains and lowest in the Lake Shore region.

Multiple logistic regression analysis was used to identify the most important risk factors for calf death in the project area. The final model included age category (OR=0.16; 95% CL 0.06-0.41), tick-borne disease (OR=11; 95% CL 1.9-62.9) and type of water supply (OR=7.7; 95% CL 1.1-56.5). Body condition and ecological zone were not included in the model, but are likely to be confounded with the variable tick-borne disease.

Conclusions from this study were used to provide specific treatment and management advice to farmers as part of a primary animal health project in the same region.

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