Farmed deer herd health and production profiling: 4. Mortality and risk factors affecting progeny loss

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This paper presents the mortality profile of farmed red deer in New Zealand and risk factors for loss of progeny (from pregnancy diagnosis (June) to weaning), which was identified as one key outcome affecting farm productivity. From March 1992 to March 1994, the composition of deer herds was recorded. Mortalities were identified as spontaneous deaths or deer culled by the farmer because of disease or injury. Where possible, the likely causes of mortality were investigated by *post mortem* examinations and further laboratory investigations as appropriate.

Overall annual mortality rates (number of losses per 100 deer) were 1.77, 2.56 and 5.87 in hinds, stags and weaners, respectively. Identified hind mortality were mainly caused by dystocia, broken bones and malignant catarhal fever (MCF). MCF was the most common confirmed cause of stag death (20.6%) killing 0.53 stags per 100 stags. A large proportion of stag mortalities were associated with misadventure (31.3%) including injuries. Yersiniosis and misadventure (including broken bones) were the most important causes of mortality in weaner deer. One farm experienced an outbreak of osteochondris associated with copper deficiency. MCF was confirmed in one weaner stag (8-9 months of age) which was unusually young for the disease. Calf losses were mainly perinatal mortalities, such as dystocia (22.1%) and stillbirth (9.5%). The remainder of losses (20%) were directly related to the management of herds at calving with 8.4% of dead calves lost outside the calving paddock boundary. A large proportion of dead calves (77.3%) could not be found. Overall, 17% and 9.1% of yearling and adult hinds, respectively, lost their progeny between June (date of pregnancy diagnosis) and weaning.

Risk factors associated with a high probability of hinds being wet at weaning are being investigated currently. These results are the best current estimates of mortality rates of farmed red deer in New Zealand. Reducing calf mortalities and preventing yersiniosis outbreaks in weaner deer may be the most relevant areas for research into increasing farm productivity.

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