

A whole farm simulation model, Technology Impact Evaluation System (TIES), was used to assess ex-ante financial and economic impacts of immunization of dairy cattle against East Coast Fever (ECF) by the infection and treatment method (ITM) on smallholder farms from two sites in Kenya. Four alternative strategies of immunization in combination with different levels of acaricide use were compared with the current acaricide-based method of control. The economic impacts were estimated using simulated net present values, present values of ending net worth, internal rates of return, benefit-cost ratios, annual cash farm incomes, cash expenses, and net farm incomes. The results from the analysis indicate that ECF immunization strategies are financially and economically viable on smallholder farms. Based on the risk preference for risk averse producers, the most preferred strategy was to adopt ITM in combination with a 75% reduction in acaricide use. The results obtained provide a good indication of the relative orders of magnitude of the farm level financial and economic effects of ECF immunization by ITM. The whole farm simulation model used for the analysis has the advantage of incorporating the risks involved in farm production. Whole farm simulation offers a flexible method for assessing the financial and economic impacts of alternative disease control methods on smallholder farms.