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Economic impact of oestrosis in the Eastern region of Cuba

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Purpose:
Oestrus ovis L. is an important myiasis-producing agent of sheep and goats in diverse production environments that impairs the wellbeing and performance of their hosts. Despite of oestrosis importance, the disease is generally undervalued, perhaps by the limited existing studies upon its economic importance and, the benefit of control. The aim of this work was to assess the economic impact of oestrosis and expected benefit based on antiparasitic treatment in a region of Cuba where the disease is endemic.
Methods:
Based on a data set of oestrosis outbreaks during six years (2006-2011) a model was developed, using @Risk (Palisade Corporation) and Microsoft Excel 2007 and the simulation results were obtained after 1 000 interactions with Latin hypercube sampling. Sheep flocks were randomly pick up to estimate losses per year, according to probability distributions of risk for mortality, reduced daily weight effect and loss for capital immobilization. The average annual benefit per sheep was established based on a model developed by Stott & Gunn 2008 by foot and mouth disease, deriving probabilities to avoid losses across a range of expenditures on antiparasitic treatments.
Results:
the direct disease losses were near a million of the local currency (pesos) on a susceptible population of 139 536 sheep. In unitary form, the prevalence and lethality observed in the affected region, determined a loss of 6.91 pesos/sheep/year. The cost opportunity for fighting or either controlling oestrosis was considered beneficial; because of price of main antiparasitic was lowest concerning to 7 pesos/sheep as disease impact. The Cuban sheep raising is mainly for meat production, in which oestrosis cut, 472 Kg of sheep live weight each thousand susceptible animals.
Conclusion:
the probability to avoid disease losses through benefit function allow to established feasibility of treatment for reducing economic impact of oestrosis under the studied conditions.
Relevance:
the maximum average net benefit of disease control under studied epidemiological and farm business circumstances may help to persuade farmers to invest in oestrosis control.