

Methodological framework for a participatory study to evaluate the socio-economic factors impairing the efficacy of animal health surveillance systems

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The need to set up efficient, sustainable surveillance networks of animal diseases is a major issue for worldwide animal and public health management. In developing countries the need to assess the efficiency and sustainability of surveillance systems is of primary importance because of major sanitary issues and limited economic resources. So far, only the economic component of the sustainability concept has been subject to scientific interest, leaving out the social aspects. We present here a methodological framework for an assessment of social and economic issues faced by local actors involved in surveillance systems. This multidisciplinary approach consists of two major steps: first, the identification of the pathways of sanitary information diffusion through formal and informal social networks, and second the characterization of the socio-economic factors involved in these information sharing behaviors. Two methodologies can be implemented to develop models of the social network involved in sanitary information flow: (1) individual structured interviews based on prior identification of the actors involved; and (2) participatory methods, including observation and workshops. The development of the two models allows for comparison between their outcomes and their respective relevance. Stated preference methods, widely used in the field of economics to assess non-market values can then be applied to identify and quantify the social goods at stake in sanitary information flow. Due to the social and interactive nature of the targeted decision-making, stated preferences were elicited using participatory tools as well as role-playing games.

Prevalence of antileptospiral agglutinins and anti-*Neospora caninum* antibodies: a first step to economic evaluation of dairy herds in Minas Gerais, Brazil, 2010

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The economic losses related leptospirosis and neoporosis are unknown in Brazil, the prevalence estimate is the first step to achieve a quantification of the lost value and thus what effects control measures should be propose with economically efficiency. The study aimed to evaluate the prevalence of anti-*Leptospira* agglutinins and anti-*Neospora caninum* antibodies in dairy cows, located in properties in the microregion of Sete Lagoas, Minas Gerais, in the year 2010. The state of Minas Gerais is the largest milk producer in Brazil, producing more than 5.6 billion liters of milk annually. A total of 2,915 serum samples were collected from the lactating cows of 151 properties in eleven municipalities. The technique used was the microscopic agglutination test (MAT) for leptospirosis agglutinins and a commercial ELISA kit for anti-*N. caninum* antibodies detection. As a result, 20.7% (CI 95% = 17.1-24.3%) at animal level and 80.8% (CI 95% = 73.8-87.7%) in herd level were positive to anti-*Leptospira* agglutinins. The most prevalent serovars were hardjoprajitno at 19.4%; hardjoprajitno strain Norma at 17.4%; and hardjo-bovis at 17.4%. The prevalence of anti-*N. caninum* antibodies were 21.9% (CI 95% = 18.9-24.9%) at animal level and 98.5% (IC 95% = 97.0-99.9%) at herd level. The agglutinins anti-*Leptospira* and antibodies anti-*N. caninum* are widely distributed in the properties of the microregion of Sete Lagoas, Minas Gerais. The next step of the project is to analyze the risk factors and estimate the economic losses by these two diseases in the dairy cattle. Thanks to CNPq, FAPEMIG and INCT-Pecuária for funding this project.