Comparative potential of abattoir surveillance for immunization coverage and freedom from disease in Kyrgyzstan and Switzerland

Joldoshbek Kasymbekov[1], Jakob Zinsstag[1] Swiss Tropical and Public Health Institute, PO Box, CH-4002 Basel, Switzerland

Key words
Abattoir surveillance, brucellosis, peste des petits ruminants, PPR, Kyrgyzstan

Aim of the study
The aim of Swiss-Kyrgyz collaboration is to demonstrate the potential surveillance in abattoirs and live-stock markets for epidemiological intelligence and thus promoting viable animal production and improv-ing the livelihoods of stakeholders.

Material and methods
We conducted a slaughterhouse and field survey in Naryn and Osh provinces of Kyrgyzstan. A livestock demographic model was developed to compare field and abattoir surveillance and cost of brucellosis. Active household surveys based on random selection of eligible farmers in the catchment areas were conducted from July to November 2012. Age specific abattoir disease prevalences were compared with field seroprevalences by correcting for the population structures between abattoir and field populations.

Results and significance
The demographic model of the Kyrgyz sheep population is important for the planning and control of animal disease and monitoring. We estimated the loss of sheep meat production and its present value. Losses for Kyrgyzstan were estimated from 2006 to 2015 for a seroprevalence of brucellosis of 3.3% in sheep. The net present value of sheep products lost from brucellosis is estimated at 208 million KGS (95% CI 70 – 380 million KGS) or the equivalent of 6.8 million USD (95% CI 1.7-9.2 million USD) between 2006 and 2015 at a rate of 41.3 KGS/USD at prices of 2006. The overall brucellosis seroprevalence in the abattoirs of Osh and Naryn was 10.7% (95% CI 9.6 -13.3%). The overall brucellosis seroprevalence in the field studies in Osh and Naryn was also 10.7% (95% CI 8.9 -12.6%) Despite direct contacts and engagement, the Kyrgyz Public Health authorities did not agree to collaborate on human – animal brucellosis strain comparison. This is an example of lack of cooperation between public and animal health with important consequences for public health. Contacts will be pursued and we hope that by building up trust, similar to experiences in other countries (i.e. Mongolia), this obstacle can be overcome.

Publications, posters and presentations
In the first half of 2014 we plan publishing papers: (i) cost effectiveness of sheep productivity, (ii) vaccination coverage at abattoir surveillance, (iii) full cost of brucellosis for Kyrgyzstan as part of the PhD of JK.

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