Reviewer’s report

Title: Prevalence of Chlamydia suis in pigs and zoonotic risk assessment in a pig slaughterhouse

Version: Date: 2 July 2014

Reviewer: Fabio Ostanello

Reviewer’s report:

This paper describes a study in which the presence of Chlamydia suis in slaughtered pigs, contact surfaces, air and employees was detected using the C. suis specific real-time PCR, and the viability of the Chlamydia suis bacteria was assessed by culture. It is an interesting paper. The manuscript, however, needs rewriting. The English language is good, but the structure of the report needs still some consideration. The text of current version can still be further tightened. Since the number of samples is limited, a short communication, would be a suitable format.

Major Compulsory Revisions

1. Title: the title is too general, it should be more precise (see comment 2).
2. Abstract: “…this study aims to assess the zoonotic risk in a Belgian pig abattoir”.

In this work, is not carried out a risk assessment. The Risk Assessment is “A scientifically based process consisting of the following steps: (i) hazard identification, (ii) hazard characterization, (iii) exposure assessment and (iv) risk characterization”, WHO 1995. This paper evaluates only the prevalence (presence) of C. suis or C. trachomatis. Please reformulate the statement.

3. Introduction, page 3: “The negative influence of Chlamydiaceae infections on the economic yield of the pig industry is underestimated”. This is a peremptory statement. Authors must confirm with some bibliographic reference.
4. Introduction, page 4: the bibliography no. 10 does not apply to pigs industry (refer to wild boar population).
5. Introduction, page 4: “This event is promoted when pigs are treated with tetracyclines”. This statement is very important. Authors must support it with some bibliographic references.
7. M&M, page 5: “For monitoring C. suis in pigs, rectal swabs (n = 100; 10 pigs of 10 Belgian farrowing to slaughter farms) were taken upon arrival in the slaughterhouse.”

This is a particularly important point. On what basis was calculated the number of pigs to be sampled? For example, if the purpose was to estimate the prevalence
in each batch / farm, must be provided the values of the population, the expected prevalence, acceptable error and level of confidence. In absence of this information, the results given are of limited importance (see M. Thrusfield, Veterinary epidemiology).

8. C. suis and C. trachomatis PCR, page 7. Please provide information on the positive and negative controls. In my opinion, this is important to support the assertion that the sensitivity of PCR II is higher than that of PCR I

9. Culture, page 8. Please provide information about the score. The score was arbitrarily chosen or there are references?

10. Results, page 8. “Thus, real-time PCR II was more sensitive”. In my opinion, in the absence of a gold standard, this statement is arbitrary. On what basis the Authors believe that these 7 samples are not false positives?

11. Results, page 9: “The percentage of PCR II positive pigs per farm ranged from 30 to 100%.”. Confidence intervals must be calculated. See also comment 7.

12. Discussion, page 11: “As far as known, the present study is the first zoonotic risk assessment for C. suis in a pig slaughterhouse.” See comment 2 and 7.

Minor Essential Revisions

1. Introduction, page 3: “This pathogen is mainly associated with respiratory disease, diarrhea …”. I suggest to add "in field" before “this pathogen …”

2. Introduction, page 4: replace U.S with U.S.

3. Discussion, page 12: “… extensively in human medicine and agricultural use of these …”. Please change “agricultural” with “zootechnical”

4. Caption of table 1: remove “The ‘+’symbol is used to indicate a positive result, the ‘-’ symbol for a negative result”.

5. Table 1: I suggest adding a row with the total (positive / examined)

6. Caption of table 2: remove “The ‘+’symbol is used to indicate a positive result, the ‘-’ symbol for a negative result”.

7. Table 2: I suggest adding a row with the total (positive / examined)

8. I suggest to make uniform, in text and tables, the term "PCRII" (PCR II or PCRII).

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests