



SDI Review Form 1.6

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	2014_BJAST_12830
Title of the Manuscript:	A Metrological Contribution to the Diagnosis of Bovine Tuberculosis
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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SDI Review Form 1.6

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	1. The authors describe the relevance of calibrated callipers to evaluate the CCT assay in cattle. They claim that they evaluate and discuss the use of callipers with an accuracy/precision of 0.1 and 0.01 mm (see abstract). However, all tables that show actual measurements only show results with a precision of one decimal digit (i.e., 0.1 mm), and not two (0.01 mm). 2. Figure 2 shows the use of a calliper on a steel gauge block. It would be much more informative and interesting if there was a figure that shows an actual measurement of a skin fold of an animal. 3. To me (but I am not a veterinarian) it is not clear how callipers with a precision of 0,1 and 0,01 mm can be efficiently used on comparatively soft and compressible animal tissue.	1. The reviewer is correct in relation to the fact that measurements were only carried out using a calliper with resolution of 0.1 mm. However, in order to discuss the effects of the measurement uncertainty, a comparison was made considering a calliper with a resolution of 0.01mm. A digital calliper reduces the uncertainty associated with the measurement of the skin fold and therefore increases the measurement quality. To evaluate the measurement uncertainty, measurements in the cattle are not necessary. We have changed the abstract to correct the misleading idea that measurements were carried out using both callipers. 2. Page 6. One figure was added (Figure 1) showing the inoculation procedure (a) and the measurement of the skin fold with callipers (b). 3. The use of callipers to measure the skin fold is recommended in: Lage AP, Roxo E, Muller EE. Programa Nacional de Controle e Erradicação da Brucelose e da Tuberculose Animal (PNCEBT). Brasília, 2006. p. 188; in Portuguese.



SDI Review Form 1.6

	4. Table 10: How were uncertainty values obtained for the digital calliper? On gauge block measurements? 5. Furthermore, figures 1 and 3 appear to be redundant to me and should be condensed into one figure.	This measurement device is equipped with a handle that facilitates use. A spring ensures a constant measurement load. The edges of the calliper are wider, which avoids excessive compression of the animal tissue, which is a bigger issue when measuring the reacting regions. 4. The procedure to calculate the uncertainty associated with the calibration of the digital calliper using gauge blocks was added (lines 506-511). 5. Figure 1 was removed.
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Minor REVISION comments	1. In all tables, abbreviations used should be explained in the legend 2. “fold of skin” should be replaced by “skin fold” throughout the text. 3. Replace “sensibility” by “sensitivity” (lane 371, 379) 4. Replace “repeatability” by “reproducibility” in the text (lanes 332, 347, 502). 5. Replace (temperature) “distance” by “difference” (lanes 288, 301). 6. Replace “UI” by “IU” (international units) (lanes 128, 129) 7. Lane 300: “delta ICbpi” should read “delta UCbpi” 8. Lanes 122, 127, 129, 132, 134: put quotations/references in brackets [#]. 9. Lane 229: explain “k” in the term U/k.	1. Added to the revised manuscript. 2. The suggested replacement was carried out throughout the manuscript. 3. “sensibility” was substituted by “sensitivity” as suggested (now, lines 373, 381) 4. “repeatability” was substituted by “reproducibility” as suggested (now, lines 334, 337, 522, 691, 714) 5. The suggested replacement was carried out (now, lines 289, 303, 714). 6. The suggested replacement was carried out (now, lines 1 28, 130). 7. The suggested replacement was carried out (now, line 302). 8. Brackets were added as requested in lanes 122, 127, 130, 133, 135). 9. The description of the term “k” was added in the revised manuscript (lines 225, 226).
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<u>Optional/General</u> comments	The manuscript should be revised by a statistician for correctness of calculations and formulae used. This is outside my scope of knowledge.	