The Paratuberculosis Newsletter

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DEADLINE FOR NEXT ISSUE: 15 February 2015

All contributions should be sent to saxmose@sund.ku.dk

Søren Saxmose Nielsen
Editor
1. IAP Business

Open Access publication subsidy

The appearance of the Open Access publication system can help the IAP to better fulfill its main objective of promoting and spreading the knowledge on paratuberculosis. Although this system has increasingly become a business that is posing a higher pressure to publish on researchers with some risk of decreasing the quality of the material being published, it still is a way to make research available to less wealthy societies that should help their scientists to stay current in the continuous flux of newly generated information. This perspective is fully in line with other IAP policies like the Helping Hand awards and has been approved by the Board of Directors, as well as discussed in the last General Membership meeting. In order to take advantage of this system regarding the costs of maintaining the highest possible scientific standards while putting to work the funds collected by the IAP, the following rules have been established.

IAP can pay one Open Access publication fee for papers on paratuberculosis according to the following terms:

1) The paper has been accepted by a peer-reviewed Open Access journal in English and both a copy of the paper and of the invoice is sent to the IAP. Priority will be given to journals in order of last published impact index.

2) Only one paper per group and year will be subsidized. A paper will be considered from a different group in the same year if it has: a) different senior author (generally the one signing last, with the higher number of papers and/or with higher position in the institution), and b) no more than half the authors signed a previously funded paper.

3) At least one among the first, second or the senior authors must be a member of the IAP in good standing.

4) Applications are accepted until an IAP fund of US$10,000 per year is exhausted in a first come, first serve schedule with a maximum of US$1000 per paper.

5) A Selection Committee will make the decision on each submitted paper and will establish new rules and policies on any aspect not specified in this guideline. Initially this Committee will be constituted by the Officers of the IAP: President, Vice-president, Secretary-Treasurer and Editor-in-Chief.

6) The evaluation will be a continuous process that will be applied to all the applications submitted every three months until exhaustion of the provided fund.

7) Since these publications’ copyright remain in the hands of the authors, the IAP might chose to include the subsidized papers in the Paratuberculosis Newsletter. At least the full bibliographic reference of all the subsidized papers will be published in it.
8) The IAP would require the following disclaimer to be added to any publication of the winning papers in its own media (The Paratuberculosis Newsletter): The IAP financial support of the Open Access publication does not mean IAP official endorsement of the published contents.

9) The call is open since its publication in The Paratuberculosis Newsletter and until otherwise noted in The Paratuberculosis Newsletter. Periodic reminders will also appear in its pages.

10) Submission must be sent by email to the Editor-in-Chief of the IAP (saxmose@sund.ku.dk) and must include a letter of application, a pdf copy of the published paper or its electronic address and a pdf copy of the publisher invoice.

Ramon A. Juste
President of the IAP
2. Opinions

It’s time for the IAP to take the lead on international spread of paratuberculosis!

David Kennedy and Geart Benedictus

Proposal
The IAP develops practical and scientifically sound guidelines for managing the risk of spreading MAP by inter-regional movements of live animals.

Rationale
The recent successful 12 ICP in Parma highlighted the progress that has been made in applying recently acquired knowledge and understanding to the prevention and control of MAP on farm and in many countries. However, it is evident that little progress has been made in limiting spread between regions and nations, or in developing and applying movement requirements that are more consistent with the risk that various types of movements really present.

Interest in MAP increases in countries as they realise too late that they have endemic JD or when another country wants to include MAP in health certification for animals or products. As outlined in the final section of this paper, official efforts at improving movement certification since 2001 have not born fruit.

Most movement protocols are scientifically flawed and ineffective. Symptomatic of the problem is that we still have certification based on recent on-farm clinical history and individual animal testing, usually of young animals and sometimes with outdated tests such as the CFT. The negative predictive value of such certification from endemically infected regions approaches zero.

On the other hand, such protocols can have perverse effects on control programs. Participants actively trying to control MAP on their farms may be penalised; for instance, by the detection of clinical case or by vaccinated animals reacting to a serological test.

Some countries, in which JD has almost certainly established, require certification when they themselves have no significant surveillance or control programs in place. And some markets require negative farm level assurance for young animals destined for slaughter. Yet, the few regions that have vigorously controlled and stamped out MAP, struggle for recognition and acceptance that they should be able to require appropriate entry requirements based on risk.

Risk assessment and management programs (RAMPs) have become the keystone of modern on-farm JD control programs. Many of the same principles can be applied at a
regional level. Long term farm level vaccination is also becoming increasingly recognised as a tool that reduces the risk of infection and shedding.

We believe that it’s time for the IAP to take a lead and provide guidelines that importers and exporters can choose to use or ignore. Those who want to implement rational movement requirements, based on current understanding of managing MAP risks, should find such guidelines invaluable.

**Recommendations**

We recommend that:

- The IAP Board develops terms of reference and appoints a working group to draft practical and scientifically sound guidelines for herd level assessment and management of the risk of spreading MAP by inter-regional movements of live animals.
- The guidelines should be consistent with the principles of the Sanitary and Phytosanitary Agreement1 and recognise and recommend risk management that is justified and appropriate for different risk situations faced by herds and regions.
- The group should report to the IAP Board which should ratify the guidelines and publish them on the IAP website.

**History**

In a 2001 paper on MAP control in OIE’s Scientific and Technical Review2 we canvassed the need for more rational protocols for inter-regional movements. Since then, members of the IAP have contributed to two separate initiatives that have tried to address the issues around live animal movements. OIE accepted an initial Supporting Document 3 for a new Code chapter in 2001 and then commissioned the writing team to draft a revision of the Code Chapter. This draft Chapter however was not supported by the Code Commission which subsequently deleted the existing text on movement certification from the Code Chapter in 2005.

A number of OIE Commissions again discussed paratuberculosis between 2007 and 2009. The Code Commission initially considered developing a new code chapter and, later, a guidance document on MAP control. These did not proceed because the Biological Standards Commission “reiterated its earlier advice on paratuberculosis that, as there are still no robust and well validated diagnostic tests, a Terrestrial Code chapter on paratuberculosis cannot yet be drafted.”4 Later the Scientific Commission for Animal Diseases Commission “concluded that, considering the lack of reliable diagnostic procedures for paratuberculosis, it would not be advisable to develop such a guidance document.”5 In September 2011, the Terrestrial Animal Health Standards Commission noted that the project was still “On hold pending further development in diagnostics.”6 It was not listed on the future work programme in February 20147.
The chapter on Paratuberculosis in the 2013 Terrestrial Code (Chapter 8.10) still contains no information on managing the risk of spread of MAP but simply states that "Standards for diagnostic tests and vaccines are described in the Terrestrial Manual."

References

1. The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) [http://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm](http://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm)

END

20 October 2014
3. List of Recent Publications

Angelidou E, Kostoulas P, Leontides L. **Flock-level factors associated with the risk of Mycobacterium avium subsp. paratuberculosis (MAP) infection in Greek dairy goat flocks.** Prev Vet Med. [Epub ahead of print].


Basra S, Anany H, Brovko L, Kropinski AM, Griffiths MW. **Isolation and characterization of a novel bacteriophage against Mycobacterium avium subspecies paratuberculosis.** Arch Virol. 159:2659-74.


David J, Barkema HW, Guan L, De Buck J. **Gene-expression profiling of calves 6 and 9 months after inoculation with Mycobacterium avium subspecies paratuberculosis.** Vet Res. 45:96.


Donat K, Kube J, Dressel J, Einax E, Pfeffer M, Failing K. **Detection of Mycobacterium avium subspecies paratuberculosis in environmental samples by faecal culture and real-time PCR in relation to apparent within-herd prevalence as determined by individual faecal culture.** Epidemiol Infect. 2014 Oct 2. [Epub ahead of print].

Dudemaine PL, Thibault C, Alain K, Bissonnette N. **Genetic variations in the SPP1 promoter affect gene expression and the level of osteopontin secretion into bovine milk.** Anim Genet. 45:629-40.

Facciuolo A, Mutharia LM. **Mycobacterial glycoproteins: a novel subset of vaccine candidates.** Front Cell Infect Microbiol. 4:133.


Karunasena E, McMahon KW, Kurkure PC, Brashears MM. **A comparison of cell mediators and serum cytokines transcript expression between male and female mice infected with Mycobacterium avium subspecies paratuberculosis and/or consuming probiotics.** Pathog Dis. 72:104-10.

Keller SM, Stephan R, Kuenzler R, Meylan M, Wittenbrink MM. **Comparison of fecal culture and F57 real-time polymerase chain reaction for the detection of Mycobacterium avium subspecies paratuberculosis in Swiss cattle herds with a history of paratuberculosis.** Acta Vet Scand. 56:68.

Kralik P, Babak V, Dziedzinska R. **Repeated cycles of chemical and physical disinfection and their influence on Mycobacterium avium subsp. paratuberculosis viability measured by propidium monoazide F57 quantitative real time PCR.** Vet J. 201:359-64.

Küpper J, Brandt H, Donat K, Erhardt G. **Phenotype definition is a main point in genome-wide association studies for bovine Mycobacterium avium ssp. paratuberculosis infection status,** Animal. 8:1586-93.


Liverani E, Scaioli E, Cardamone C, Dal Monte P, Belluzzi A. **Mycobacterium avium subspecies paratuberculosis in the etiology of Crohn's disease, cause or epiphenomenon?** World J Gastroenterol. 20:13060-70.


Okafor C, Grooms D, Alocilja E, Bolin S. **Comparison between a conductometric biosensor and ELISA in the evaluation of Johne's Disease.** Sensors (Basel). 14:19128-37.

Pinna A, Masala S, Blasetti F, Maiore I, Cossu D, Paccagnini D, Mameli G, Sechi LA. **Detection of serum antibodies cross-reacting with Mycobacterium avium subspecies**


