

AG Name: Dung Organism Toxicity Testing (DOTTS)

Submitted by: Jörg Römbke

Date: Mar. 06, 2016

Council/Board Liaison:

Organization

Since 2002, DOTTS is organized by a small group of active members. Decisions are made during the annual meetings, usually by acclamation. Several non-SETAC-members regularly contribute to the group activities.

Activities Summary

As usual, a group meeting took place during the SE Annual Conference (Basel, May 2014). For the third time in a row, the DOTTS meeting was combined with a meeting of people preparing an OECD Guideline on the fate of pharmaceuticals in dung and manure.

- Recent publications:
Puniamoorthy, N., Schäfer, M., Römbke, J., Meier, R. & Blanckenhorn, W.U. (2014): Ivermectin sensitivity is an ancient trait affecting all Ecysozoa but shows phylogenetic clustering among sepsid flies. *Evolutionary Applications* 7: 548-554.
- The work of the group is regularly presented at SETAC conferences; usually in two ways:
 - (1) Presentation of a poster describing the activities of the group (see attachment)
 - (2) Talks or posters presented by individual group members:
 - Lahr, J., Blanckenhorn, W.U., Floate, K., Lumaret, J-P., Tixier, T., Wohde, M., Düring, R-A. & Römbke, J. (2014): An international ring test to assess effects of ivermectin application to cattle on dung fauna and dung degradation. Poster, SETAC Basel.
 - Scheffczyk, A., Floate, K., Blanckenhorn, W.U., Coghlin, P., Düring, R-A., Klockner, A., Lahr, J., Lumaret, J-P., Tixier, T., Wohde, M. & Römbke, J. (2014): Non-target effects of ivermectin residues on soil organisms at 4 grassland sites (France, Switzerland, The Netherlands, Canada). Poster, SETAC Basel.
 - Wohde, M., Blanckenhorn, W., Coghlin, P., Floate, K., Lahr, J., Lumaret, J-P., Römbke, J., Scheffczyk, A., Tixier, T. & Alexander Düring, R-A. (2014): Dissipation of the antiparasitic agent ivermectin in cattle dung and soil at 4 parallel field studies. Poster, SETAC Basel.

Future Plans

In addition to further discussions on the improvement of test strategies and risk assessment procedures for VMPs most active members of the group are involved in an international ringtest project, funded by the German Environmental Protection Agency (UBA). In late 2014 and most of 2015 the results of this project have to be compiled. Actually, the idea is to prepare a Special Issue (or at least a Special Section) in E, T & C in the near future. In parallel, and using the experiences of this project, a Guidance Document for field testing of veterinary pharmaceuticals (VMP) as a higher-tier VICH method is envisaged.

There is still an open issue: an OECD Guidance Document covering the testing of the (semi)-tropic dung beetle *Onthophagus taurus* is still missing. The group got positive feedback from different members to help preparing such a document, but without lasting support by a project it is difficult to run a ringtest for such a complicated test system.

Business and Planning Meetings

DOTTS members will meet during the next SETAC Europe conference in Barcelona in May 2015.

Membership Communications

Due to its small size, most communication is performed in the annual meetings or by e-mails.

Issues/Problems

As always, the topic of DOTTS is a relatively small one, with a limited number of interested colleagues (both within and outside of SETAC). In the last years the group profited very much from research activities of the German Environmental Protection Agency (UBA). Since the outcome of these projects became quickly relevant for the environmental risk assessment of VMPs there is still an on-going interest from various stakeholders, at least as long there are gaps in the respective test strategies.

Current Steering Committee

The group is chaired by Jörg Römbke. The affiliation of members is: business (= 10), academia (= 5) and government (= 7). Non-active members were taken from the list in 2013.

No. active members: 4

Total membership: 22



ADVISORY GROUP

Dung Organism Toxicity Testing Standardization (DOTTS)

Background and Aims of DOTTS:

In 2002, following requirements by US, EU and Japanese authorities (VICH initiative) the Dung Organism Toxicity Testing (DOTTS) Advisory Group was established to:

- exchange information about testing the effects of veterinary drugs on dung organisms;
- develop test protocols for toxicity testing with dung flies and dung beetles;
- perform ring tests with dung species in order to standardize and validate the test protocols.

Today, these aims are fulfilled but there are new ones: e.g. the design of test strategies or batteries.

Test organisms: Dung beetles



Activities of DOTTS:

- Preparation of SOPs and draft guidelines;
- Performance of ring tests (so far, three)
- Publication of supporting information (e.g. on the performance of field studies);
- Support of the standardization process in close co-operation with OECD and EMA;
- Annual meetings at SETAC-EU conferences



DOTTS Output I: Guidelines

- OECD (2008): Determination of developmental toxicity of a test chemical to dipteran dung flies (*S. stercoraria*, *M. autumnalis*). Paris, France: No. 228.
- OECD (2010): Guidance document on the determination of the toxicity of a test chemical to the dung beetle *A. constans*. Paris, France: GD No. 122.

DOTTS Output II: Paper

- Jochmann et al. (2010): How to test non-target effects of veterinary pharmaceutical residues in livestock dung in the field. IEAM 7: 287–296.
- Adler, N., Bachmann, J. & Römbke, J. (2013): New test strategy for dung beetles during the authorization process of parasiticides. IEAM 9: 524-530.



SETAC AG: Dung Organism Toxicity Testing Standardisation (DOTTS) **Website:** www.dottsgroup.org
Contact: Jörg Römbke (J-Roembke@ect.de)
 ECT GmbH, Boettgerstr. 2-14; D-65439 Flörsheim, Germany

