

Summarizing minutes of the AMEG open meeting May 23, 2012 in Berlin

1. Welcome (chair)
2. Short presentation of AMEG activities over the last year (Gertie)
3. Discussion / workshop rooted macrophyte bioassay protocols and ring-test results
 - Comments by one or two regulators (Veronique and Katja)
 - Technical comparison of both methods (Udo)
 - Dirk Maletzki advocating the Myriophyllum water medium-only approach
 - Peter Dohmen advocating the Myriophyllum sediment approach
 - Discussion with audience.
4. New ideas / contributions to AMEG from audience;
5. End of meeting.

❖ **New working groups:**

Two topics were introduced which AMEG intends to start to work on in 2012:

Higher tier testing – giving scientific guidance on the conduction of mesocosm with focus on plants

and multispecies plant tests (only plant containing outdoor tests)

Glyceria standard lab test – developing a test protocol and conducting a ring -test

❖ **Comparison/Discussion of the two Myriophyllum test designs – water-only (UBA) and sediment test (AMRAP)**

Historical:

Need for a second aquatic plant species to cover MoA where Lemna is not sensitive

Need for a rooted species to assess exposure via sediment.

New Requirement under 1107/2009.

Summary of the two test comparison

- **Both test systems work**
- **Both tests deliver comparable overall endpoints.**

Although some differences exist between which endpoints are evaluated and which measurement delivers the lowest endpoint, this seems to be no issue. Common endpoints are weight and height measurements and the respective yield calculations. Root endpoints are only evaluated separately in the UBA-design and also reveal low endpoints. Lateral shoots are too variable and should be discarded as endpoint. Shoot elongation measurement in UBA-design may give low results but could be replaced with length/weight ratio.

To **limit of the number of endpoints** to the most relevant endpoints is seen as a common goal. This exercise should be done after the final evaluation of the AMRAP ring-test.

So far EC50-values and NOEC were included as endpoints in the ringtest. EC20 could be considered suitable (if CV allows) EC05 values are unlikely to be appropriate as variance is too high.

Validity criteria discussed:

Doubling of biomass and length over the test duration.

CV of less than 20% if possible, however the ring-test evaluation so far resulted in CV-values between 20 and 30%.

Limitation of algae competition (Measurements of Chl. A or turbidity)

Discussion in the audience covered the following main topics

Role of root measurements:

The tendency was to not add too many measurements if a relevant EC50 can be determined by weight and height measurements. Additional point was that higher tier test designs will not be able to follow up on the root measurement endpoints and that the ecological relevance is not felt important if the shoot does not display deficiencies (analogue to Terrestrial plants).

Additionally, the effects of the sucrose and light on root-free plant pieces in the UBA test design were considered artificial and hence, the use of root endpoints from this test design was considered questionable. Roots are considered important for functionality and as stabilizing element for the plants.

Overall, the root endpoint was not seen to be sufficiently important to direct the choice of test design.

Purpose/relevance of the two test designs - Which test answers which question and how can we put the test results together with the protection goals?

- Overall aim should be to **limit testing** and not to do both tests – especially if they are both considered tier 1 tests
- More **realism** was seen as the big advantage of the AMRAP design as exposure is similar to real exposure and plants grow more like they do in reality. Results from the sediment test could be easier related to higher tier tests.

- The water-sediment test design could be adapted to other species like e.g. **Glyceria**, (as second species mentioned in the new directive 1107/2009). Testing of other species under comparable conditions is important to develop data for an SSD.
- **Different Exposure scenarios** could be covered with the AMRAP design: Spiked water or spiked sediment.
Slight adaptations of the AMRAP test would be necessary to be able to work with spiked sediment (pre-rooting phase would need to be modified)
- Concern was raised that the **right exposure path** might be missed. Knowledge of the **right exposure path is not important in the UBA –design, which makes the test suitable** in all scenarios. However under the consideration that root morphology is different from those roots growing in the sediment and that roots are not developed when the test starts, the potential for root uptake is not truly represented in the UBA-design.

For the water-sediment test design, the group discussed that **measured concentrations** in the water phase would solve this question. **Uptake via whole plant** assumed as the results from the 2 ring-test differ only by a factor less than 2.

- **Formulation testing** so far only possible with the AMRAP design – UBA is working on a solution for the water-only test design.

Action to finalize AMRAP ring-test evaluation