

SUMMARY COMMENTS AND STATUS OF HORIZONTAL DS 8^b. PHYTOTOXICITY

RECOMMENDATIONS FROM THE STEERING COMMITTEE

There was general agreement on the need to **re-draft this desk study** in order to introduce the missing elements of comparison of existing standards and evaluation of their pros and cons from a point of view of horizontal standardisation. Such work should be completed by March 2004.

SUMMARY OF COMMENTS

HORIZONTAL DESK STUDY 8^B. PHYTOTOXICITY

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As has been pointed out in the report of the project leader “Biological Parameters”, the focus of the study was set at the description of a practicable method. Especially for phytotoxicity, a lot of critical remarks have been made regarding the desk study, namely the choice of methods mentioned. Some of the methods demanded have been omitted on purpose after discussion in the project group, especially those dealing with extracts (e.g. EPA guidelines). In this case, only water soluble materials are taken into account, thus limiting the assessment of phytotoxicity in general. Furthermore, reviews of the methods in use (e.g. GCPF, 2000) only list the different set-ups without estimation of the different approaches.

On the other hand, it has to be conceded, that unfortunately some methods that have obviously been provided for the “horizontal” team by members of the CEN TC 223, have not been passed on to us (namely the French method). These methods of course will be taken into account during the revision process. Furthermore, some of the methods demanded (like OECD) only partially deal with “indigenous” phytotoxicity, although several aspects, especially some details regarding the experimental design, will be considered.

The remarks on the methods described in some cases were quite contradictory, a fact that emphasises the need for further discussion on a larger scale. Therefore, the offer of the CEN TC 223 to convene a meeting of additional experts and practitioners can be very appreciated.

In the following section, the most important points raised in the discussion are listed, considering also contradictory statements:

- Include Soil Improvers and Growing Media in the scope
- Reference material
 - Exact specification (nutrients, pH)
 - Material that is locally available
- Dilution of the test material
 - No dilution
 - Dilution ratio according to test material
 - Dilution ratio according to EC
- Use of different test methods for different materials (not specified)
- Complete incorporation of seeds into the material
- Adjustment of nutrients and pH of the test material
 - Of no importance
 - According to type of material
 - Dependent on species used
- Cover of the tray
 - Removal time chosen individually
 - Free choice of cover material
 - No coverage
- Tray
 - Common PE-pots with set-up to avoid backwater
 - Size has to be sufficient for all test plants
- Use of quartz sand
 - No coverage of the seed by sand
 - Perlite as alternative
- More detailed specifications of the experimental conditions
 - Number of seeds
 - Moisture control (at the beginning, during the experiment)
 - Temperature (esp. beneath the cover)
 - Light intensity (e.g. max 3000lx)
 - Compression of the material
 - Duration of the experiment
 - Dependent on plant species
 - Fixed period (suggestions from 8 to 14 days)
- Detailed guidance on statistics
- Demand for quality/validity criteria

- Test plants: especially for this point, the suggestions cover a wide range of possibilities:
 - One test plant
 - Garden cress
 - Everything but garden cress
 - Two or more test plants
 - Establishment of selection criteria (Justification for the use of monocots and dicots)
 - No selection criteria, free choice
 - More possible test plants than listed
- Test Report
 - Extension of compulsory parameters:
 - Dry matter
 - Germination rate
 - Germination delay
 - EC
 - Root growth
- Consideration of possible harmful gaseous substances
- Change of the title: “plant tolerance”

Proposal

As can be seen from the compilation of the partially conflicting remarks, at least one meeting as proposed by CEN seems to be necessary to establish a common agreement regarding the crucial points of the method, in particular the

- sample dilution
- the diluent
- the test species and
- the parameters for measuring the response.