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Session 3 – Software for uncertainty evaluation

Summary

B Magnusson

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Main presentations

1. Karina Hettwer. Webtool for taking measurement uncertainty into account in the implementation of the Federal Soil Protection and Contaminated Sites Ordinance

2. Michael Koch. Excel tool for estimation of measurement uncertainty from validation and quality control data according to ISO 11352

3. S Ellison. Measurement uncertainty in R: The metRology package

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Main outcome

1 presentation

- Contamination of soil
- 4 contributions
  - Heterogeneity
  - U due sampling
  - U due to fundamental variability
  - U due to analysis
- Start with an example e.g. 20 & cont and 80 OK

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Main outcome

1 presentation

- Support for conformity assessment
- Can be used for planning and for evaluation
- Can test different ways of reducing MU

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Main outcome

2 presentation

Introduction that ISO 11352 (water analysis) is based on Nordtest 537

The excel tool is directly based on this ISO standard

Approach very similar to the Mukit program

Idea to present a MU report after the calculations

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Main outcome

2 presentation – Ex Cd in soil

1 spec of the measurand

2 one sheet for Rw
– possibility to add additional contributions e.g. samp

3 one sheet for BiasLing

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Main outcome

2 presentation –

White cells for input, blue is a choice and yellow is result

One sheet for absolute and one for relative

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Main outcome

3 presentation –

R is a statistical software – there is a package for statistical application – today was presented metrology package prepared by Steve Ellison

Covers

MU

Interlaboratory study

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Main outcome

3 presentation –
Follows the GUM – you need an equation
And then you can use e.g. Kragten, MonteCarlo

Starting R there is help but remember written for …