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Ring test
Polar pesticides in sweet pepper
P2214-RT

Summary

The entire report is available to participants only.

The ring test was designed, realised, evaluated, and authorised on behalf of PROOF-ACS GmbH by

Dr. Birgit Schindler
Managing Director PROOF-ACS GmbH
Project coordinator

The report was approved by

Dr. Birgit Schindler
21 November 2022

Participants with any comments or concerns related to this ring test are invited to contact:

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PROOF-ACS GmbH does not have any analytical laboratory facilities of its own. Homogeneity testing and stability testing are subcontracted to laboratories, accredited according to DIN EN ISO 17025. The subcontracted laboratory may also participate in the ring tests. If so, the laboratory is treated in the same way as other participants and the same rules of confidentiality apply.

The proficiency test evaluates the performances of laboratories with respect to their ability to quantify the five most relevant polar pesticides in sweet peppers.

10 laboratories across six countries (Germany, Italy, Netherlands, Portugal, South Africa, and Spain) took part in the test. It was up to the participants to analyse all polar pesticides or a selection of the parameters only. Eight labs analysed all five parameters, while two labs analysed a reduced number of parameters only. The total number of participants per parameter is summarised in the table below.

Organic sweet peppers are used as raw material. An analysis of the raw material confirms the absence of all spiked parameters.

To prepare the test material, the sweet peppers are homogenised and spiked with

chlormequat chloride, chlorate, perchlorate, ethephon, and phosphonic acid.

The performance of laboratories in the test is evaluated according to

- the *comparability* of the results. The evaluation of the comparability is based on the z-score model. The z-score should be at least ≤ |2|.
- the *trueness* of the results. The trueness is expressed as the coverage of the spiked level in %. The coverage should be at least between 70 and 120 % of the spiked level.

Results

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results	**Comparability criterion:** no. of participants, with z-score ≤ |2|	**Trueness criterion:** no. of participants with results within 70-120 % recovery of the spiked level
Chlormequat chloride	0.038	0.0372	9	8	8
Chlorate	0.044	0.0455	9	9	8
Perchlorate	0.062	0.0632	9	9	8
Ethephon	0.073	0.0717	10	10	10
Phosphonic acid	0.088	0.0948	10	10	7