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Ring test
Polar pesticides in kiwifruit
P2317-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
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Project coordinator

The report was approved by

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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 polar pesticides and amino alcohols in kiwifruit. 13 laboratories across five European countries (Germany, Greece, Italy, Portugal, and Spain) took part in the proficiency test.

The test material is prepared from organic kiwifruit. The kiwifruit is homogenised in a Robot Coupe R20 V.V. at room temperature. The homogenate is tested for incurred residues and provided as blank material.

The kiwifruit homogenate is spiked with

phosphonic acid, glyphosate, N-acetyl glyphosate, AMPA, N-acetyl AMPA, glufosinate, N-acetyl glufosinate, MPPA, morpholine, diethanolamine, and triethanolamine.

It was up to the laboratories to quantify all 11 spiked parameters or a selection of it.

All labs kept the term of submission of results and are considered for evaluation.

The report contains an assessment related to

- 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. The trueness criterion is applied to all parameters except phosphonic acid.
- 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 comparability criterion is applied to phosphonic acid, glyphosate, glufosinate, N-acetyl glufosinate, and MPPA.

Results

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Assigned value in % of the spiked level	No. of results	No. of results with a z-score ≤ |2|	No. of results within 70-120 % of the spiked level
Phosphonic acid	0.057*	0.0698	122	13	12	Not applicable
Glyphosate	0.088	0.0824	94	12	11	10
N-Acetyl glyphosate	0.055	-	-	6	Not applicable	4
AMPA	0.045	-	-	10	Not applicable	6
N-Acetyl AMPA	0.025	-	-	6	Not applicable	5
Glufosinate	0.043	0.0430	100	10	9	7
N-Acetyl glufosinate	0.034	0.0327	96	9	7	6
MPPA	0.062	0.0725	117	9	9	7
Morpholine	0.12	-	-	6	Not applicable	3
Diethanolamine	0.054	-	-	5	Not applicable	1
Triethanolamine	0.026	-	-	5	Not applicable	2

* For information only.

To summarise:

- 13 laboratories took part in the tests. The laboratories were free to choose to report results related to all 11 parameters or a selection of it. One lab reported results related to all parameters.
- Most of the labs reported results related to the most common parameters phosphonic acid, glyphosate, and glufosinate. A reduced number reported the metabolites of glyphosate and glufosinate.
- 6 labs ordered the additional module related to the amino alcohols and reported results.
- Comparability:

  Phosphonic acid, glyphosate, glufosinate, N-acetyl glufosinate and MPPA are evaluated with respect to the comparability criterion.
- Trueness:

  The trueness criterion is applied to all parameters except phosphonic acid.
- The overall performance of the labs is satisfying with respect to the basic module, while the performance with respect to the amino alcohols should be improved for most of the labs.