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rolling proof 2024

Module tea and spices

Black peppercorn – P2423-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

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

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DAkkS Deutsche Akkreditierungsstelle D-EP-22211-01-00

PROOF-ACS is a DAkkS accredited proficiency testing provider according to DIN EN ISO 17043:2010 (D-EP-22211-01-00). This ring test is covered by the scope of accreditation.

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.

rolling proof is developed to support laboratories in meeting the requirements of accreditation bodies. According to advisory document EA-4/18 G:2021 (1) analytical laboratories are requested to establish a PT participation plan for accredited analytical methods. ***rolling proof*** is an on-going scheme of ring tests.

The module “tea and spices” of ***rolling proof*** is designed for difficult or unique commodities (according to SANTE 11312/2021v2, Annex A) and includes

- teas like black tea, green tea, herbal tea, fruit tea, rooibos tea etc., and
- spices like pepper, curry powder, paprika powder, etc.

The module “tea and spices” covers all in all a minimum of 150 of the most relevant pesticides. The scope of pesticides covered by ***rolling proof*** is defined in a provided list. All pesticides are tested within a period of five years. Thus, the laboratories that take part in ***rolling proof*** can test their pesticide multi-methods for a large number of pesticides and a variety of matrices within one cycle of accreditation. However, it is up to the participants to join all tests of the 5-year programme of ***rolling proof***, or to book the tests individually.

rolling proof evaluates the performance of the laboratories according to:

- The correct *identification* of the spiked pesticides. Pesticides, which are not reported and not marked as “not analysed” are considered false negative.
- The *comparability* of the results. The evaluation of the comparability is based on the z-score model. The absolute values of 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.

In 2024, ground black peppercorn is chosen as matrix of ***rolling proof*** – module ”tea and spices”. The peppercorn is spiked with 32 pesticides, which are covered by common pesticide multi-residue methods.

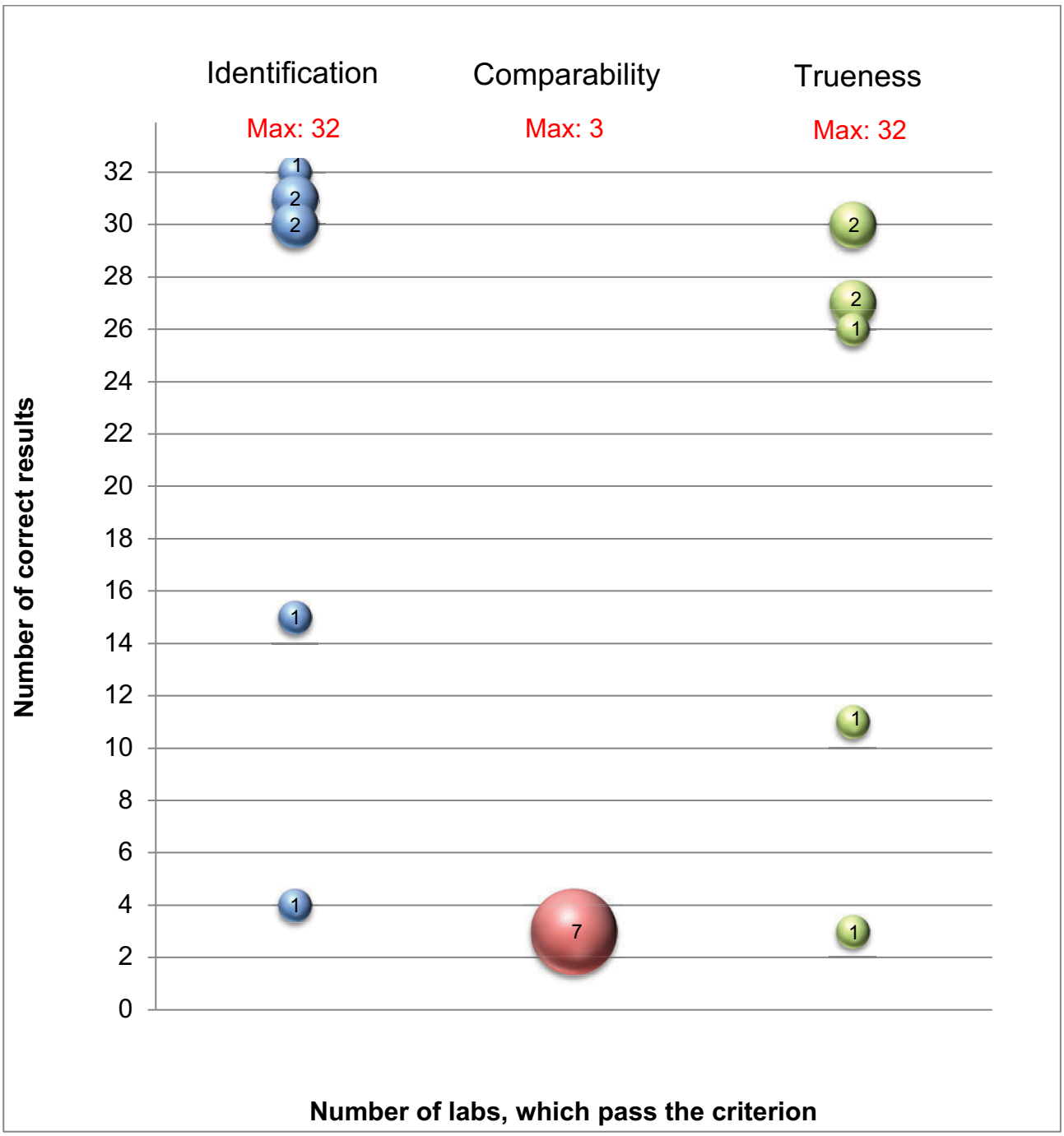
Nine laboratories across five countries (Austria, Germany, Italy, Spain, and Vietnam) took part in the test. Seven labs reported results and are considered for evaluation. The scope of one of the labs covers a reduced number of pesticides only.

The analytical challenge was to identify and quantify all spiked pesticides. The identity of the pesticides, the spiked levels and a summary of the overall performance of the laboratories are provided in the table below. The comparability criterion is applied to 3 out of 32 pesticides only due to the limited number of reported results. All 32 pesticides are evaluated with respect to the trueness criterion.

Summary of results

Pesticide	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results	**Comparability criterion:** no. of participants, which pass the criterion (|z-score| ≤ 2)	**Trueness criterion:** no. of participants which pass the criterion (70-120 % recovery of the spiked level)
2,4-DDD	0.035	-	5	Not applicable	5
4,4-DDE	0.022	-	5	Not applicable	4
4,4-DDT	0.026	-	5	Not applicable	2
Aldicarb	0.062	-	6	Not applicable	5
Carbaryl	0.12	-	6	Not applicable	5
Chlorpropham	0.065	-	5	Not applicable	4
Chlorpyrifos-ethyl	0.026	0.0237	7	7	6
Demeton-S-methyl-sulfoxide	0.045	-	6	Not applicable	6
Diazinon	0.082	-	6	Not applicable	5
Dieldrin	0.16	-	5	Not applicable	4
Diethofencarb	0.039	-	6	Not applicable	6
Diflubenzuron	0.068	-	6	Not applicable	5
Famoxadone	0.084	-	3	Not applicable	2
Fenamiphos	0.024	-	6	Not applicable	6
Fenitrothion	0.15	-	5	Not applicable	4
Fenpyroximate	0.034	-	4	Not applicable	4
Flufenoxuron	0.088		6	Not applicable	5
Hexachlorobenzene	0.039	-	5	Not applicable	5
α-HCH	0.022	-	5	Not applicable	5
Imazalil	0.071	-	6	Not applicable	5
Imidacloprid	0.088	0.0878	7	7	7
Malaoxon	0.037	-	6	Not applicable	5
Methiocarb	0.026	-	4	Not applicable	3
Oxadixyl	0.064	-	5	Not applicable	5
Penconazole	0.057	-	6	Not applicable	6
Phosalone	0.22	-	5	Not applicable	3
Pirimicarb	0.076	-	5	Not applicable	5
Pirimiphos-ethyl	0.067	-	5	Not applicable	5
Propyzamide	0.044	-	5	Not applicable	5
Quintozene	0.13	-	5	Not applicable	5
Thiabendazole	0.098	0.0971	7	7	7
Trifluralin	0.066	-	5	Not applicable	5

Summary of the performances of the laboratories:



Total No of labs: 7