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rolling proof 2025

Module vegetables and fruits

Banana – P2521-RT

Red currant – P2522-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.

Two commodity groups (according to SANTE 11312/2021v2, Annex A) are included in ***rolling proof*** - module "vegetables and fruits":

- vegetables and fruits (high water content),
- citrus fruits, small fruits and berries (high acid content).

Two test materials are provided related to the module "vegetables and fruits" in each year, one for each of the two commodity groups mentioned above.

In 2025, banana and red currants are chosen as matrices for ***rolling proof*** - module "vegetables and fruits".

A list of pesticides is provided to the participating laboratories, which defines the scope of pesticides, covered by ***rolling proof***. The module "vegetables and fruits" covers all in all a minimum of 300 pesticides. All pesticides are tested within a period of six years. Thus, the laboratories that take part in ***rolling proof*** can test their pesticide multi-residue methods for a large number of pesticides and a variety of matrices within one cycle of accreditation.

It is up to the participants to join all tests of the 6-year programme of ***rolling proof***, or to book the tests individually. In 2025, 12 laboratories across eight countries (Austria, Cyprus, Germany, Greece, Italy, South Africa, Spain, and Turkey) took part in ***rolling proof*** module "vegetables and fruits". Eleven laboratories booked P2521-RT, while seven laboratories booked P2522-RT. All labs reported results and are considered for evaluation.

The test materials are prepared of organic bananas resp. red currants. The raw materials were homogenised, tested for incurred residues and spiked with pesticides thereafter.

rolling proof evaluates the performance of the laboratories according to:

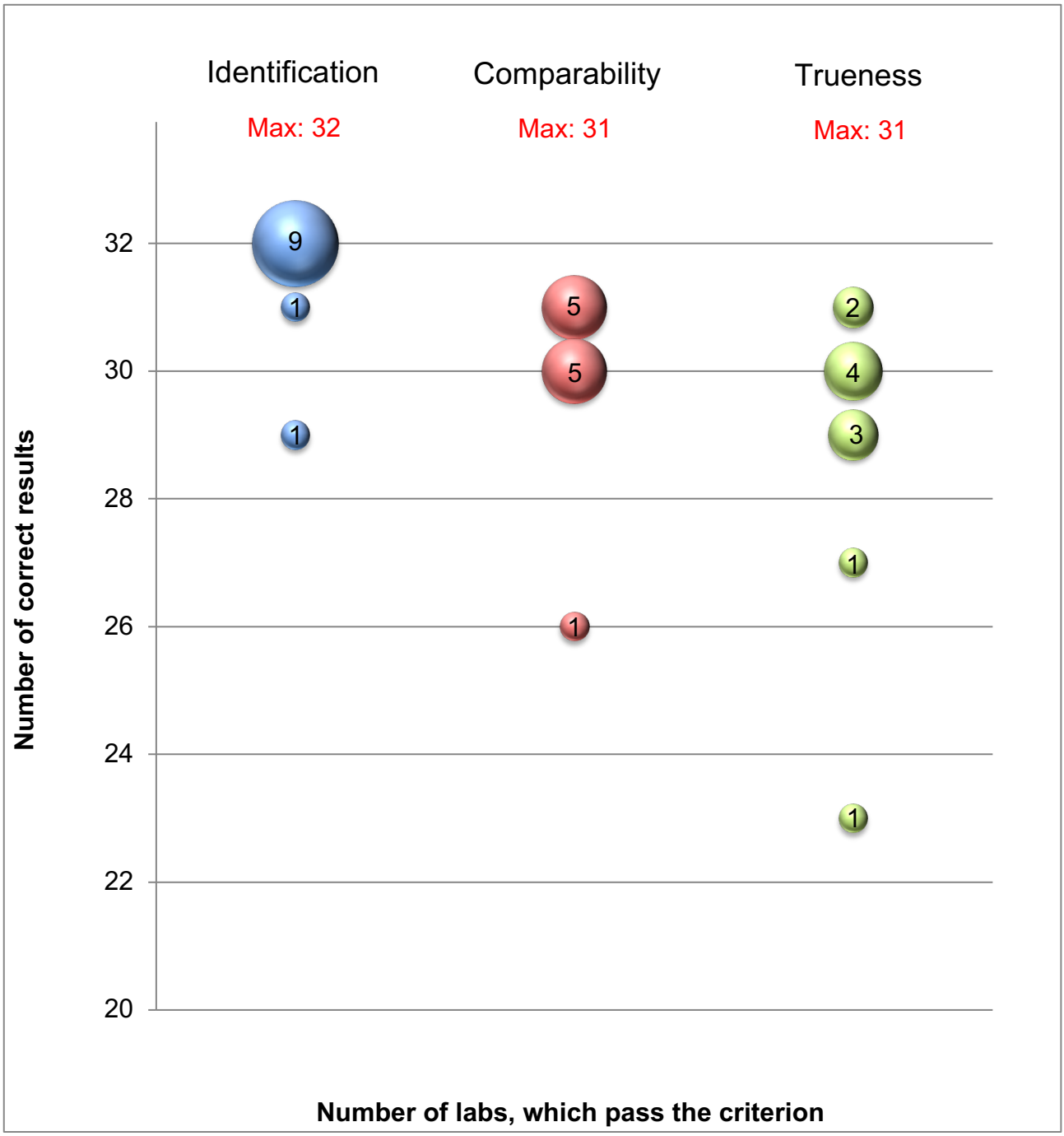
- The correct *identification* of the spiked pesticides.
- The *comparability* of the results. The evaluation of the comparability is based on the z-score model. The absolute values of z-scores should be at least ≤ 2.
- The *trueness* of the results. The trueness is expressed as the coverage of the spiked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

Test material banana (P2521-RT)

The test material banana is spiked with 33 pesticides. 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. One of the pesticides, carbofuran is metabolised to carbofuran. The correct identification is applied for evaluation, while the comparability criterion and the trueness criterion are not applicable. Thiodicarb is spiked but degraded completely and is thus not considered for evaluation.

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)
Azoxystrobin	0.069	0.0705	11	11	10
Bifenox	0.035	0.0327	11	11	11
Bifenthrin	0.14	0.127	11	11	9
Chlorpyrifos-methyl	0.059	0.0583	11	11	10
Dicrotophos	0.12	0.113	11	11	11
Disulfoton (sum)	0.066	0.0644	10	10	9
Diuron	0.047	0.0477	10	10	9
EPN	0.023	0.0220	11	11	11
Ethoprophos	0.037	0.0360	11	11	11
Fenpropidin	0.16	0.148	11	11	11
Fenpropimorph	0.031	0.0306	11	11	11
Fluquinconazole	0.077	0.0764	11	11	10
Hexaflumuron	0.022	0.0222	10	10	9
Imazalil	0.27	0.238	11	11	11
Imidacloprid	0.055	0.0531	11	11	11
Metazachlor	0.059	0.0583	11	11	11
Myclobutanil	0.13	0.123	11	11	11
Phorate	0.024	0.0221	10	10	10
Pirimiphos-methyl	0.036	0.0357	11	11	11
Propachlor	0.060	0.0588	11	11	11
Propoxur	0.014	0.0139	11	11	10
Prothiofos	0.037	0.0365	11	11	11
Pyriproxyfen	0.26	0.244	11	11	11
Quinalphos	0.041	0.0365	11	7	7
Spirotetramat (sum)	0.23	0.240	11	11	10
Tebuconazole	0.099	0.0948	11	11	11
Tetramethrin	0.032	0.0321	11	11	11
Thiabendazole	0.19	0.161	11	10	9
Triadimefon	0.022	0.0228	11	10	9
Triazophos	0.073	0.0677	11	11	11
Triflumizole	0.037	0.0364	11	11	11

Banana – summary of the performances of participating laboratories:



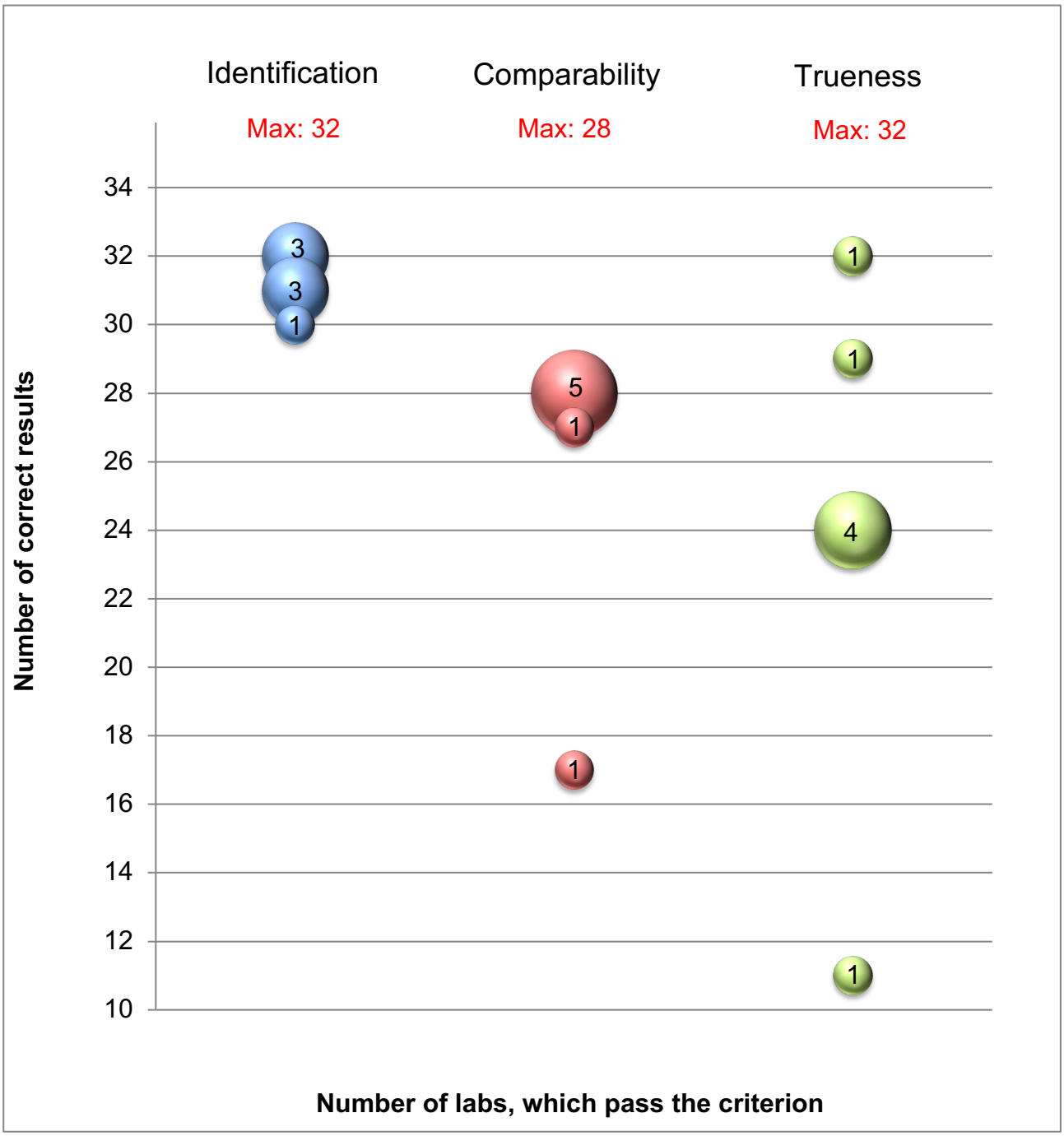
Total No of labs: 11

Test material red currant (P2522-RT)

The test material red currant is spiked with 32 pesticides. 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.

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)
4,4-DDD	0.035	-	6	Not applicable	4
Acephate	0.028	0.0236	7	6	6
Alachlor	0.043	0.0473	7	7	5
Aldicarb sulfone	0.051	0.0437	7	6	5
Bendiocarb	0.024	0.0242	7	7	6
Boscalid	0.21	0.227	7	7	5
Clopyralid	0.15	-	5	Not applicable	4
Cyprodinil	0.14	0.138	7	7	7
Dementon-S-methyl sulfone	0.028	0.0278	7	7	6
Dichlofenthion	0.031	0.0344	7	5	4
Diethofencarb	0.056	0.0571	7	7	6
Dimoxystrobin	0.035	0.0374	7	7	5
Endrin	0.022	0.0242	7	6	6
Fenchlorphos	0.033	0.0321	7	6	6
Fenhexamid	0.16	0.170	7	7	6
α-HCH	0.044	0.0495	7	7	4
trans-Heptachlor epoxide	0.026	-	6	Not applicable	3
Imidacloprid	0.021	0.0214	7	7	5
Kresoxim-methyl	0.19	0.191	7	7	6
Methacrifos	0.038	0.0396	7	6	6
Methoxychlor	0.027	0.0259	7	6	5
Mevinphos	0.075	0.0700	7	7	6
Novaluron	0.026	0.0280	7	7	4
Oxyfluorfen	0.066	0.0674	7	6	5
Paraoxon-ethyl	0.021	0.0222	7	7	7
Pencycuron	0.073	0.0741	7	7	5
Pentachloroanisole	0.055	-	6	Not applicable	4
Profenofos	0.037	0.0399	7	7	5
Rotenone	0.044	0.0423	7	6	4
Sulfotep	0.029	0.0288	7	6	6
Tebufenpyrad	0.19	0.191	7	6	5
Trifloxystrobin	0.27	0.272	7	7	7

Red currant – summary of the performances of participating laboratories:



Total No of labs: 7