

rolling proof 2018

Module vegetables and fruits

Apple – P1807-RT
Strawberry – P1808-RT



Summary

The entire report is made available to participants only.

Designed, realised and evaluated by

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rolling proof is developed to support laboratories in meeting the requirements of accreditation bodies. According to advisory document EA-4/18:2010 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 SANCO 11813/2017, Annex A) are included in the **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 above.

In 2018, apple and strawberry 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** are able to 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 2018, nine laboratories across five countries (Austria, Germany, Italy, Spain and South Africa) took part in **rolling proof** module “vegetables and fruits” for one or both matrices.

The test materials were prepared of organic apples resp. strawberries. The raw materials were homogenised with dry ice, tested for incurred residues and spiked with pesticides thereafter.

rolling proof evaluates the performance of the laboratories according to:

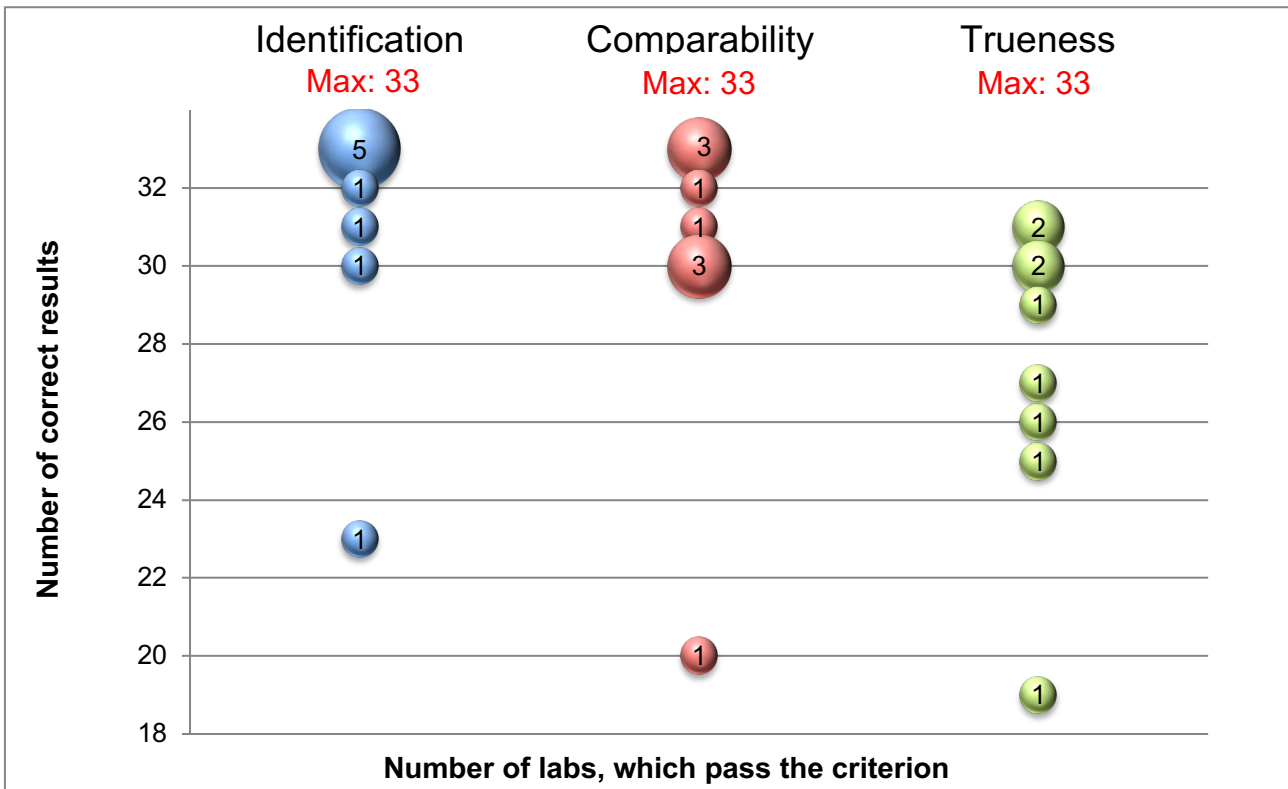
- The correct identification of the spiked pesticides.
- The comparability of the results. The evaluation of the comparability is based on the z-score model. The z-score should be at least $\leq |2|$.
- The trueness of the results. The trueness is expressed as the coverage of the spiked level in %. The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

Test material apple (P1807-RT)

The analytical challenge was to identify and quantify 33 pesticides in the test material apple. 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 \leq 2)	Trueness criterion: no. of participants which pass the criterion (70-120 % recovery of the spiked level)
Acetamiprid	0.094	0.106	9	9	7
Aldicarb sulfoxide	0.035	0.0358	9	9	8
Boscalid	0.069	0.0632	9	8	8
Cadusafos	0.022	0.0208	9	9	9
Demeton-S-methyl (sum)	0.028	0.0307	9	7	6
Ethion	0.039	0.0378	9	9	8
Fenoxycarb	0.058	0.0576	9	8	8
Fenthion sulfone	0.022	0.0208	8	8	7
Fenvalerate	0.031	0.0269	9	9	9
Fluazinam	0.025	0.0238	8	8	8
Flucythrinate	0.023	0.0184	8	8	7
Flufenoxuron	0.023	0.0233	9	8	7
Fluquinconazole	0.028	0.0292	9	8	7
Hexaflumuron	0.031	0.0305	8	8	8
Lufenuron	0.042	0.0408	9	9	8
Mepronil	0.027	0.0261	7	6	6
Monocrotophos	0.058	0.0568	8	8	7
Novaluron	0.036	0.0337	9	9	7
Oryzalin	0.066	0.0565	7	6	4
Parathion-ethyl	0.042	0.0350	9	9	7
Parathion-methyl	0.071	0.0594	9	9	8
Permethrin	0.044	0.0471	9	9	8
Phosalone	0.088	0.0858	9	9	9
Phosphamidon	0.028	0.0271	8	8	8
Pirimicarb-desmethyl	0.036	0.0358	8	8	7
Pirimiphos-ethyl	0.065	0.0593	8	8	6
Pirimiphos-methyl	0.027	0.0253	9	9	9
Propoxur	0.033	0.0311	8	8	8
Quinoxifen	0.026	0.0235	9	9	9
Tebuconazole	0.088	0.0844	9	9	9
Tetramethrin	0.066	0.0645	8	8	8
Triazophos	0.026	0.0246	9	9	8
Triforine	0.073	0.0657	7	6	5

Apple – Summary of the performances of participating laboratories:



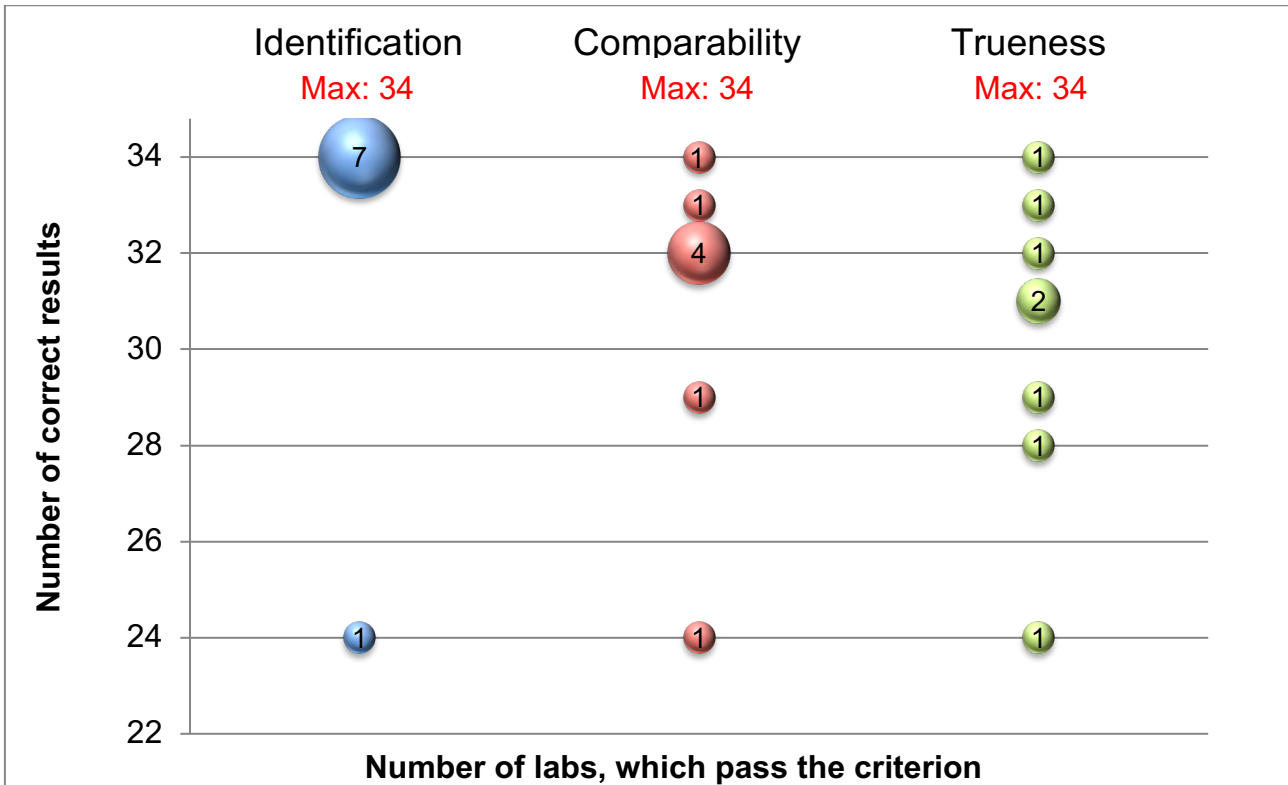
Total No of labs: 9

Test material strawberry (P1808-RT)

The test material strawberry was spiked with 34 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 \leq 2)	Trueness criterion: No. of participants which pass the criterion (70-120 % recovery of the spiked level)
3-Hydroxycarbofuran	0.012	0.0105	7	6	6
Abamectin (B1a and B1b)	0.082	0.0755	8	8	7
Bupirimate	0.055	0.0546	8	8	8
Cyprodinil	0.12	0.106	8	8	8
Demeton-S-methyl sulfoxide	0.045	0.0443	8	8	8
Endosulfan-beta	0.055	0.0525	8	7	7
Endosulfan sulfate	0.073	0.0684	8	8	8
Ethion	0.022	0.0196	8	8	7
Ethirimol	0.059	0.0654	7	4	4
Fenarimol	0.051	0.0494	8	8	8
Fenhexamid	0.10	0.100	8	8	8
Fluazifop (free acid)	0.085	0.0715	7	5	5
Flutriafol	0.092	0.0866	8	8	8
Formetanate	0.061	0.0685	7	5	5
Imidacloprid	0.022	0.0196	8	8	8
Isoprocab	0.041	0.0383	7	7	7
Isoxaben	0.027	0.0269	7	7	7
Lindane (gamma-HCH)	0.029	0.0261	8	8	8
Lufenuron	0.061	0.0569	8	8	8
Malaaxon	0.065	0.0657	8	8	8
Metazachlor	0.057	0.0554	8	8	8
Metconazole	0.044	0.0416	7	6	6
Methamidophos	0.026	0.0295	8	7	6
Methiocarb sulfone	0.063	0.0593	8	7	5
Nuarimol	0.039	0.0344	8	8	8
Oxadixyl	0.048	0.0478	8	8	8
Penconazole	0.066	0.0624	8	8	8
Pencycuron	0.055	0.0529	7	7	7
Profenofos	0.037	0.0343	8	8	8
Proquinazid	0.038	0.0353	8	8	8
Pyrifenox	0.071	0.0637	7	6	5
Terbacil	0.039	0.0390	7	7	7
Triazophos	0.028	0.0254	8	8	8
Trichlorfon	0.030	0.0279	8	7	7

Strawberry – Summary of the performances of participating laboratories:



Total No of labs: 8