

rolling proof 2017

Module vegetables and fruits

Cabbage – P1701-RT
Orange – P1702-RT



Summary

The entire report is made available to participants only.

Designed, realised and evaluated by

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A stylized, handwritten signature in blue ink that reads "Schindler".

Dr. Birgit Schindler

Summary

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 11945/2015, 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 for the module “vegetables and fruits” in each year, one for each of the two commodity groups above.

In 2017, cabbage and orange 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-methods for a large number of pesticides and a variety of matrices within one cycle of accreditation.

rolling proof evaluates the performance of laboratories with respect to their ability to identify and quantify pesticides in vegetables and fruits. 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 2017, nine laboratories across five countries (Austria, Germany, Italy, Spain and Switzerland) took part in *rolling proof* module “vegetables and fruits” for one or both matrices.

The test materials were prepared of organic cabbage resp. orange. The raw materials were homogenised, tested for incurred residues and spiked with pesticides thereafter.

rolling proof evaluates the results according to:

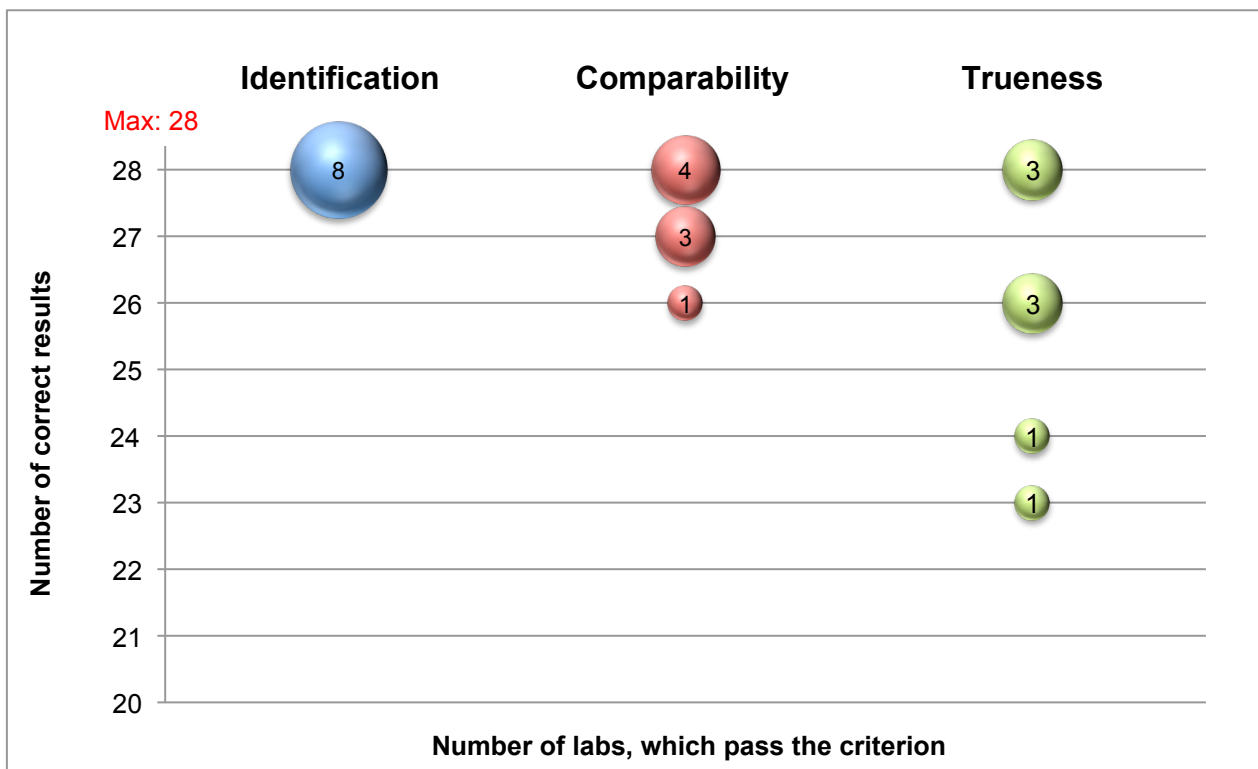
- The correct identification of the spiked pesticides.
- The comparability of the results. The evaluation of the comparability is based on the z-score model. The z-score should be at least $\leq |2|$.
- The trueness of the results. The trueness is expressed as the coverage of the spiked level in %. The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

Test material cabbage (P1701-RT)

The analytical challenge was to identify and quantify 28 pesticides in the test material cabbage. 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)
2,4'-DDE	0.035	0.0325	8	8	8
4,4'-DDE	0.026	0.0248	8	8	8
Alachlor	0.092	0.0886	8	8	8
Aldrin	0.045	0.0403	8	8	6
Bendiocarb	0.048	0.0483	8	8	8
Bromophos	0.066	0.0629	8	8	7
Carbofuran	0.028	0.0269	8	8	8
Chlordane	0.032	0.0421	8	6	5
Chlorfenvinphos	0.072	0.0695	8	8	8
Clomazone	0.023	0.0217	8	8	7
β -Cyfluthrin	0.24	0.206	8	8	8
Cyproconazole	0.032	0.0295	8	7	6
Diethofencarb	0.045	0.0419	8	8	8
Diniconazole	0.062	0.0630	8	8	8
Emamectin	0.044	0.0364	8	8	8
Etoxazole	0.072	0.0553	8	8	7
Haloxyfop	0.026	0.0245	8	7	7
Omethoate	0.069	0.0753	8	8	7
Prothiofos	0.045	0.0424	8	8	7
Pyrazophos	0.052	0.0497	8	8	7
Tebuconazole	0.16	0.141	8	8	8
Tefluthrin	0.052	0.0503	8	8	8
Terbufos	0.088	0.0751	8	8	8
Tetradifon	0.038	0.0363	8	8	8
TFNA	0.18	0.163	8	7	7
TFNG	0.10	0.0857	8	8	8
Thiamethoxam	0.030	0.0274	8	8	8
Tolclofos-methyl	0.055	0.0488	8	8	8

Cabbage – Summary of the performances of participating laboratories:



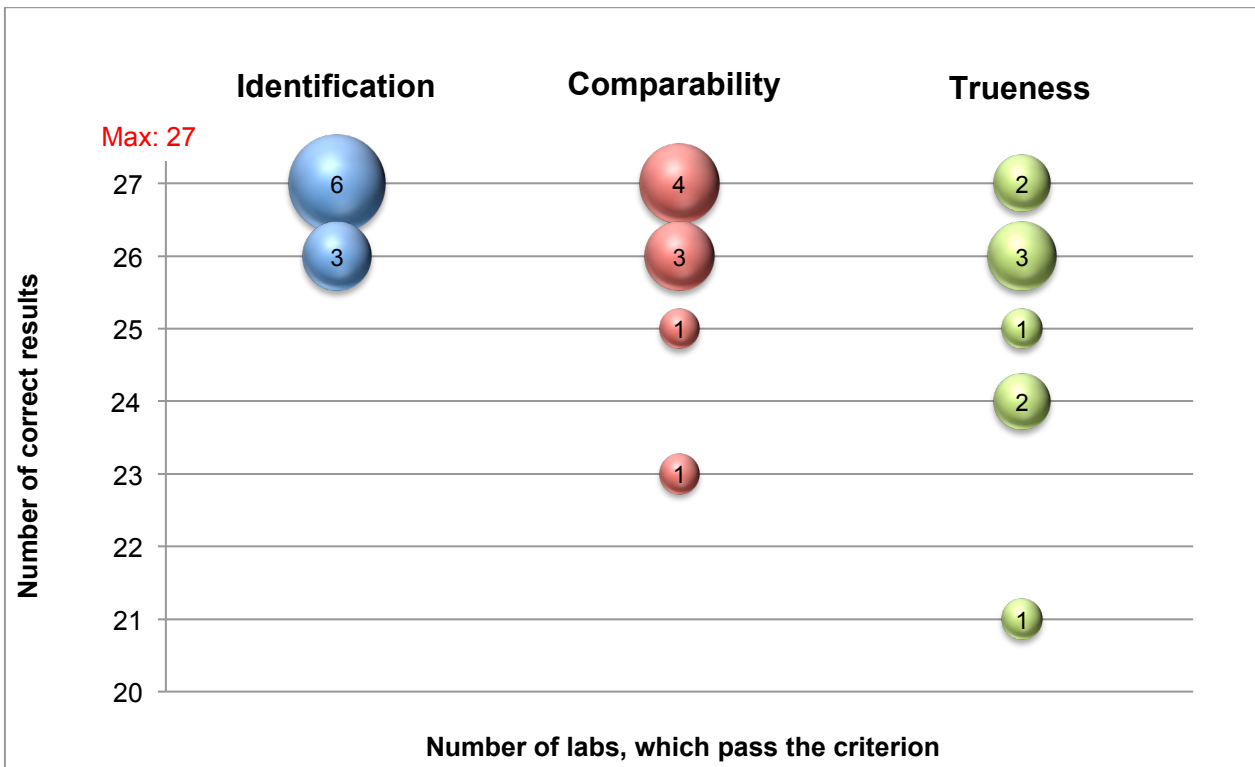
Total No of labs: 8

Test material orange (P1702-RT)

The test material orange was spiked with 27 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)
2,4-D	0.12	0.111	9	9	8
4,4`-DDD	0.022	0.0256	9	8	6
4,4`-DDT	0.032	0.0289	9	9	8
Acephate	0.085	0.0785	9	9	9
Aldicarb	0.065	0.0597	8	8	8
Biphenyl	0.082	0.0776	9	9	9
Bromopropylate	0.068	0.0624	9	9	9
Carbophenothion	0.067	0.0660	9	9	9
Chlorfenapyr	0.024	0.0238	8	8	8
Chlozolinate	0.045	0.0430	8	8	8
Dichlorprop	0.26	0.242	9	8	8
Dicloran	0.055	0.0525	9	9	9
4,4`-Dicofol	0.048	0.0475	9	7	5
α -Endosulfan	0.062	0.0570	9	8	8
Fenpropathrin	0.12	0.115	9	9	9
Fenpyroximate	0.21	0.232	9	9	8
Flusilazole	0.044	0.0437	9	9	9
tau-Fluvalinate	0.069	0.0651	9	9	9
Imidacloprid	0.093	0.0839	9	9	9
Malathion	0.17	0.152	9	9	9
Methidathion	0.027	0.0250	9	9	9
Metrafenone	0.037	0.0348	9	9	9
Oxyfluorfen	0.038	0.0364	9	8	8
Propiconazole	0.31	0.280	9	9	8
Spirotetramat	0.088	0.0834	9	9	9
Teflubenzuron	0.058	0.0535	9	9	9
Triticonazole	0.024	0.0222	9	9	9

Orange – Summary of the performances of participating laboratories:



Total No of labs: 9