

rolling proof 2019

Module vegetables and fruits

Potato – P1901-RT

Lemon – P1902-RT



Summary

The entire report is made available to the 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 SANTE 11813/2017, Annex A) are included **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 2019, potato and lemon 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 2019, ten laboratories across five countries (Austria, Germany, Italy, South Africa, and Spain) took part in **rolling proof** module “vegetables and fruits” for one or both matrices.

The test materials were prepared of organic potatoes resp. lemons. 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 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.

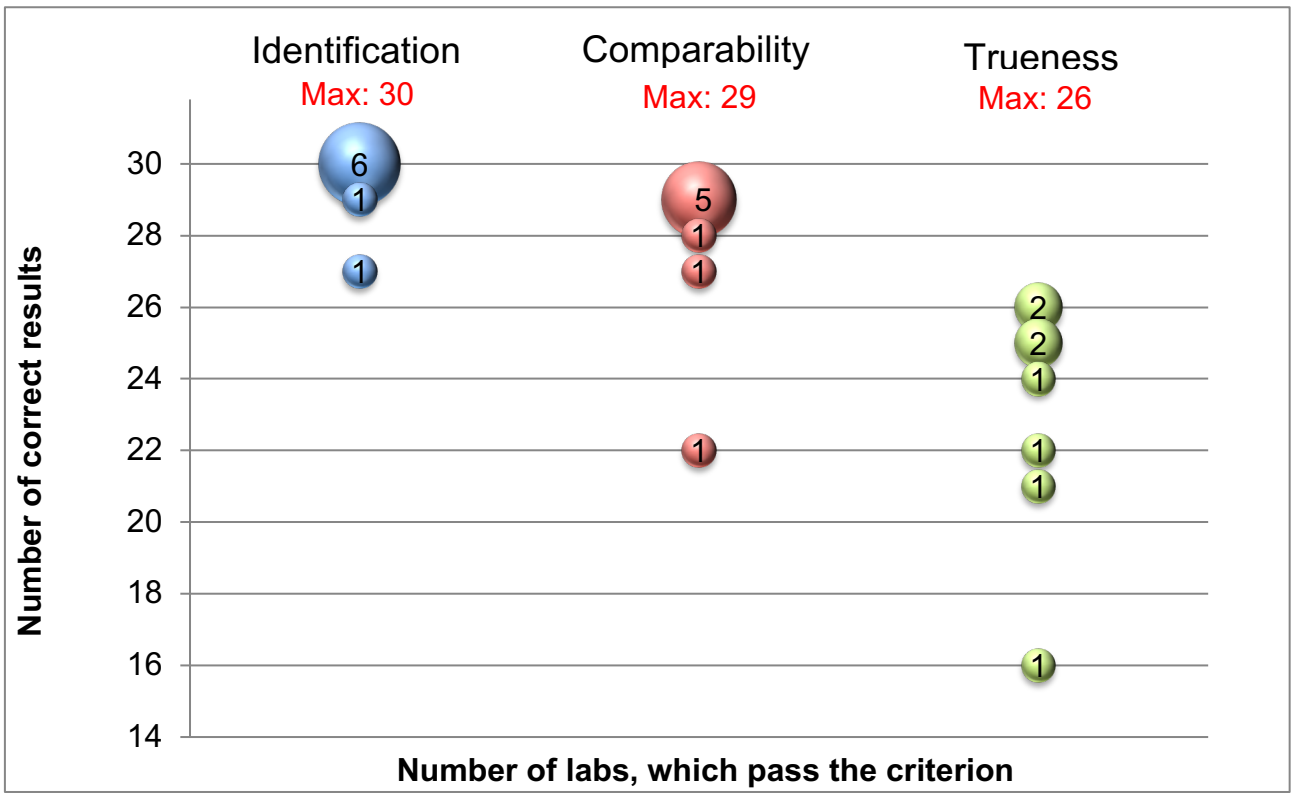
Test material potato (P1901-RT)

The analytical challenge was to identify and quantify 31 pesticides in the test material potato. 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)
Acibenzolar-S-methyl	0.037	-	7	Not evaluated	Not evaluated
Aldicarb sulfone	0.045	0.0439	8	8	8
Atrazine	0.060	0.0574	8	8	8
Chloridazon	0.071	0.0741	8	8	8
Chlorobenzilate	0.082	0.0756	8	7	6
Chlortal-dimethyl	0.026	0.0238	8	8	8
Dichlobenil	0.025	0.0197	7	7	5
Dieldrin	0.031	0.0283	8	8	8
Dimoxystrobin	0.036	0.0353	8	8	8
Ethofumesate	0.028	0.0272	8	8	7
Fipronil	0.016	0.0148	8	7	7
Fonofos	0.047	0.0411	8	8	8
Fosthiazate	0.057	0.0408	8	7	Not evaluated
Fuberidazole	0.039	0.0368	8	8	8
Ioxynil	0.049	0.0467	8	8	7
Iprovalicarb	0.065	0.0665	8	8	7
Metaflumizone	0.13	0.134	7	7	4
Metolachlor	0.081	0.0817	8	8	8
Metoxuron	0.038	0.0384	8	8	8
Monolinuron	0.054	0.0540	8	8	7
Phenthoate	0.042	0.0318	8	8	Not evaluated
Phorate	0.063	0.0301	7	7	Not evaluated
Phoxim	0.046	0.0497	8	8	7
Prometryn	0.077	0.0714	8	8	8
Propanil	0.052	0.0488	7	7	7
Prosulfocarb	0.035	0.0329	8	8	8
Tebuconazole	0.064	0.0662	8	8	6
Tecnazene	0.069	0.0620	7	7	5
Terbutryn	0.024	0.0227	8	6	6
Tetrachlorvinphos	0.029	-	8	Not evaluated	Not evaluated
Tri-allate	0.044	0.0398	8	8	8

* Acibenzolar-S-methyl degrades to acibenzolar acid and was thus not considered for evaluation.

Potato – Summary of the performances of participating laboratories:



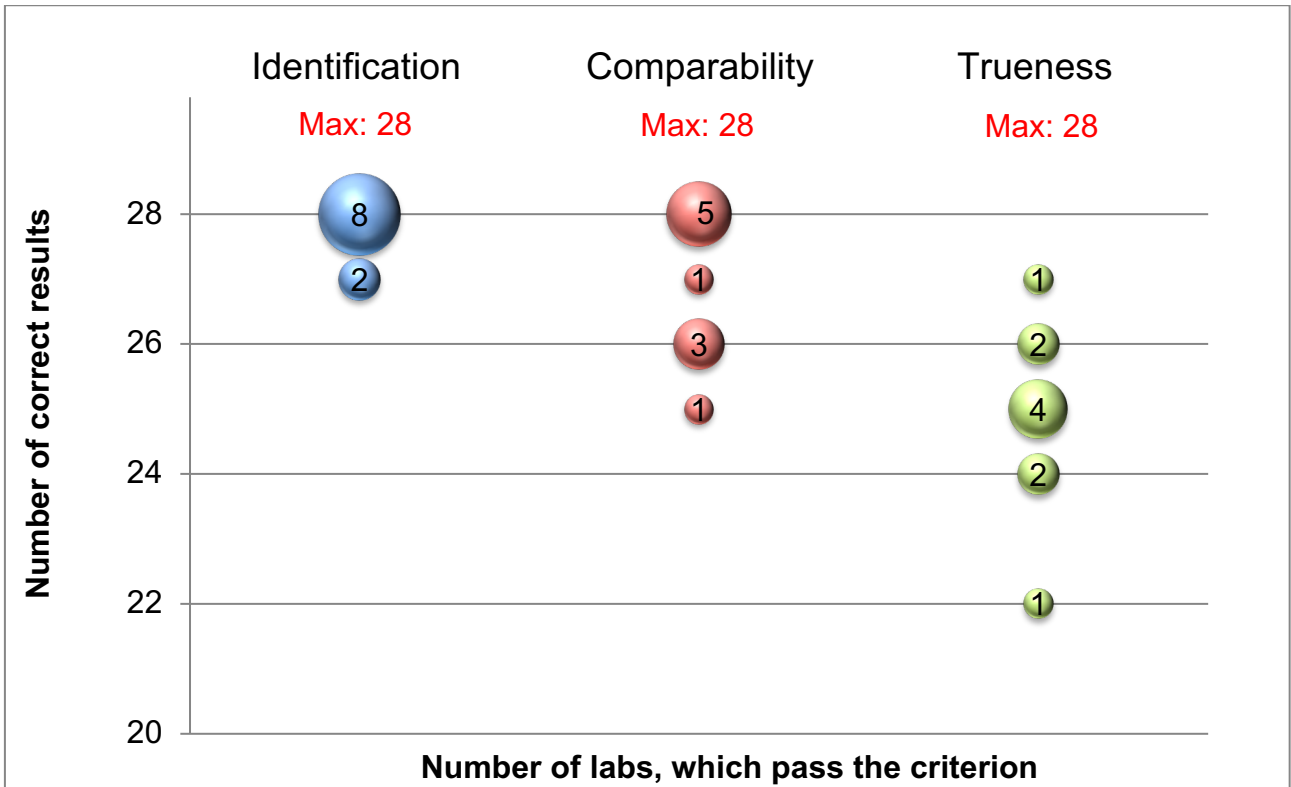
Total No of labs: 8

Test material lemon (P1902-RT)

The test material lemon was spiked with 28 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)
Azinphos-ethyl	0.038	0.0354	10	10	10
Benfluralin	0.057	0.0486	10	10	9
Bifenoxy	0.066	0.0574	10	10	10
Chlorobenzilate	0.031	0.0294	10	9	9
Coumaphos	0.069	0.0675	10	10	10
Dichlorvos	0.046	0.0479	10	8	7
Dicrotophos	0.032	0.0316	10	10	8
Ditalimfos	0.055	0.0488	10	10	9
Endrin	0.033	0.0296	10	10	9
Ethiofencarb	0.069	0.0659	10	9	9
Ethoprophos	0.095	0.0961	10	10	10
Etrimfos	0.082	0.0665	9	9	6
Fenamiphos	0.025	0.0259	10	10	9
Fenthion	0.059	0.0544	10	10	10
β -HCH	0.072	0.0649	10	10	9
Heptachlor	0.062	0.0552	10	10	10
Imidacloprid	0.065	0.0631	10	10	10
Mecarbam	0.088	0.0814	10	9	9
Mevinphos	0.072	0.0811	10	10	8
Mirex	0.044	0.0463	10	10	8
Paraoxon-ethyl	0.035	0.0366	10	10	8
Pentachloroanisole	0.058	0.0525	9	9	9
Phenthoate	0.11	0.105	10	10	10
Picoxystrobin	0.023	0.0234	10	10	10
Pyridaphenthion	0.028	0.0280	10	10	9
Pyridate	0.048	0.0625	10	8	6
Quinmerac	0.031	0.0325	10	9	8
Vamidotion	0.092	0.0883	10	10	10

Lemon – Summary of the performances of participating laboratories:



Total No of labs: 10