

rolling proof 2021

Module cereal grain and products thereof

Oat P2120-RT



Summary

The entire report is 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.

rolling proof module “cereal grain and products thereof” (former “cereals and pulses”) is defined in SANTE 12682/2019, Annex A (1) by typical representative commodities like:

Wheat, rye, barley and oat grains, maize, rice, wholemeal bread, white bread, crackers, breakfast cereals, pasta, flour.

The module “cereal grain and products thereof” 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** are able to 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 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 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.

In 2021, oat flour is chosen as matrix of **rolling proof** – module “cereal grain and products thereof”. Seven laboratories across five countries (Austria, Germany, Italy, Netherlands, and Switzerland) took part in the test.

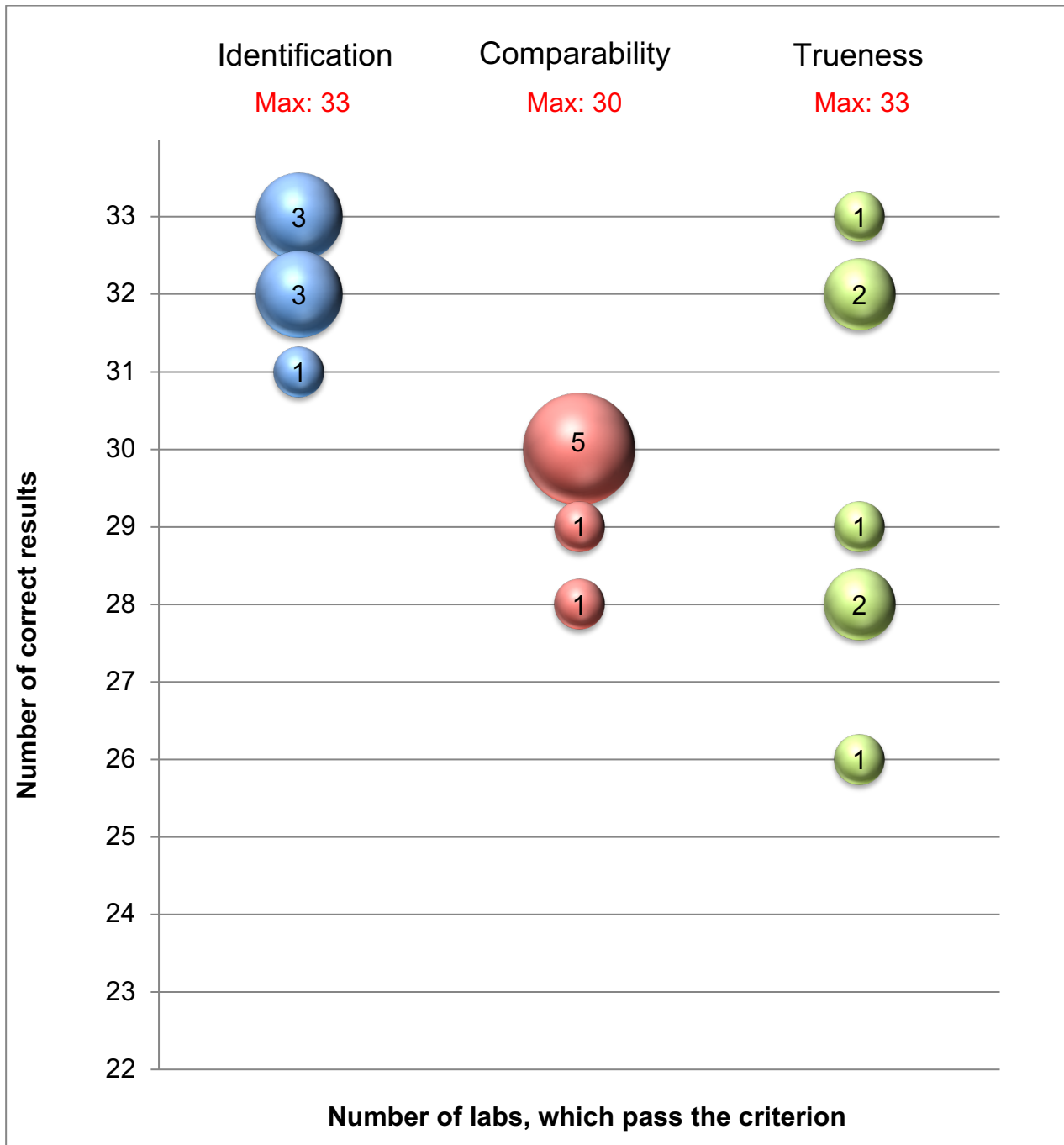
The test material is prepared of organic oat flour. The raw material is homogenised, tested for incurred residues and spiked with 33 pesticides thereafter.

The analytical challenge is to identify and quantify 33 pesticides in the test material. The identity of the pesticides, the spiked levels and a summary of the overall performance of the laboratories are provided in the table below.

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 $\leq 2 $)	Trueness criterion: no. of participants which pass the criterion (70-120 % recovery of the spiked level)
2,4-D	0.040	0.0428	7	7	6
Azoxystrobin	0.034	0.0302	7	7	7
Boscalid	0.065	0.0697	7	7	6
Clopyralid	0.092	-	4	Not applicable	4
Cyfluthrin	0.044	0.0429	7	7	7
λ -Cyhalothrin	0.077	0.0717	7	7	7
α -Cypermethrin	0.11	0.105	7	7	7
Cyproconazole	0.14	0.146	7	7	6
Cyprodinil	0.055	0.0517	7	7	6
Deltamethrin	0.062	0.0678	7	7	5
Difenoconazole	0.072	0.0694	7	7	6
Dimethomorph	0.033	0.0317	7	7	7
Epoxiconazole	0.061	0.0488	7	7	6
Esfenvalerate	0.096	0.0914	7	6	6
Fludioxonil	0.035	0.0314	7	7	7
Flufenacet	0.081	0.0803	7	7	7
Imazalil	0.042	0.0401	7	7	6
Imidacloprid	0.094	0.0991	7	7	7
MCPA (free acid)	0.13	0.144	7	7	6
Mecoprop (free acid)	0.075	-	6	Not applicable	5
Metconazole	0.055	0.0567	7	7	5
Myclobutanil	0.032	0.0311	7	7	7
Pendimethalin	0.045	0.0398	7	6	6
Pirimicarb	0.022	0.0206	7	7	7
Pirimiphos-methyl	0.22	0.213	7	7	7
Prochloraz	0.062	0.0558	7	6	6
Pyraclostrobin	0.088	0.0829	7	7	7
Pyrethrins	0.12	-	6	Not applicable	5
Pyrimethanil	0.066	0.0620	7	7	7
Spiroxamine	0.045	0.0415	7	7	6
Tebuconazole	0.066	0.0637	7	7	7
Tetraconazole	0.088	0.0851	7	7	7
Thiophanate-methyl	0.055	0.0481	7	7	7

Summary of the performance of the laboratories:



Total No. of labs: 7