# *rolling proof* 2015

## Module cereals and pulses

## Cornflakes (P1517-RT)



## Summary

The entire report is made available to participants only.

Designed, realised and evaluated by

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## 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.

The module "*cereals and pulses*" of *rolling proof* is focused on the commodity group "high starch and/or protein content and low water and fat content" (SANCO 12571/2013, Annex A), which consists of the commodity categories

- dry legume vegetables/pulses (e.g. dried beans and lentils), and
- cereal grain and products thereof (e.g. grains, maize, rice, breakfast cereals, bread).

One test is performed for the module "cereals and pulses" in each year. The matrix of the test material is chosen of the commodity categories above. In 2015, cornflakes are selected as representative breakfast cereal matrix.

A list of pesticides is provided to the participating laboratories, which defines the scope of pesticides, covered by *rolling proof*. The module "cereals and pulses" covers all in all a minimum of 150 pesticides. All pesticides are tested within a period of five years. Thus, the laboratories participating 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 cereals and pulses. It is up to the participants to join all tests of the 5-year programme of *rolling proof*, or to book the tests individually.

In 2015, seven laboratories across four European countries (Austria, Germany, Italy, and Spain) took part in the test of *rolling proof* - module "cereals and pulses".

The test material was prepared of organic cornflakes, which were milled, 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 _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.
- The _comparability_ of the results. The evaluation of the comparability is based on the z-score model. The z-score should be at least ≤ |2|.

The cornflakes were spiked with 29 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) |
|---|---|---|---|---|---|
| 2,4-D | 0.055 | 0.0483 | 7 | 7 | 6 |
| Azoxystrobin | 0.035 | 0.0346 | 7 | 7 | 7 |
| Bentazone | 0.56 | 0.528 | 7 | 6 | 5 |
| Bifenthrin | 0.067 | 0.0646 | 7 | 6 | 6 |
| Biphenyl | 0.027 | 0.0243 | 5 | 4 | 4 |
| Bromopropylate | 0.042 | 0.0382 | 6 | 6 | 6 |
| Chlorpropham | 0.022 | 0.0243 | 7 | 7 | 5 |
| Chlorpyrifos-methyl | 0.42 | 0.408 | 7 | 7 | 7 |
| Cyfluthrin (beta) | 0.028 | 0.0294 | 7 | 7 | 4 |
| Cyprodinil | 0.090 | 0.0937 | 7 | 7 | 7 |
| Dichlorvos | 0.025 | 0.0230 | 7 | 7 | 6 |
| Diphenylamine | 0.12 | 0.116 | 7 | 7 | 7 |
| Endosulfan-beta | 0.070 | 0.0599 | 7 | 7 | 5 |
| Epoxiconazole | 0.16 | 0.166 | 7 | 7 | 7 |
| Fenitrothion | 0.29 | 0.243 | 7 | 6 | 6 |
| Flufenacet | 0.096 | 0.0896 | 7 | 7 | 7 |
| Imidacloprid | 0.082 | 0.0799 | 7 | 7 | 7 |
| Indoxacarb | 0.052 | 0.0496 | 7 | 7 | 7 |
| Lindane | 0.024 | 0.0200 | 7 | 7 | 6 |
| Malathion | 1.8 | 1.76 | 7 | 6 | 6 |
| Methomyl | 0.043 | 0.0398 | 7 | 7 | 6 |
| Methoxyfenozide | 0.035 | 0.0339 | 7 | 7 | 7 |
| Pendimethalin | 0.072 | 0.0650 | 7 | 7 | 6 |
| Permethrin | 0.23 | 0.223 | 7 | 6 | 6 |
| Piperonyl butoxide | 0.55 | 0.609 | 7 | 6 | 6 |
| Pirimiphos-methyl | 0.25 | 0.255 | 7 | 7 | 7 |
| Propargite | 0.12 | 0.129 | 7 | 7 | 6 |
| Propiconazole | 0.045 | 0.0420 | 7 | 7 | 5 |
| Pyraclostrobin | 0.048 | 0.0518 | 7 | 7 | 6 |

**Summary of the performances of participating laboratories:**

- **Four laboratories identified _all 29 pesticides_ correctly, while the other three laboratories identified _28 out of 29 pesticides_ correctly.**

- **Two laboratories reported a _false negative result of biphenyl_, while one laboratory reported a _false negative result of bromopropylate_.**

- **The laboratories reported _no false positive results_.**

- **Three out of seven laboratories _quantified all 29 pesticides_ correctly with respect to the _comparability criterion_, while two more laboratories _quantified 28 out of 29 pesticides_ correctly.**

- **Two out of seven laboratories _quantified all 29 pesticides_ correctly with respect to the _trueness criterion_, while one more laboratory quantified _28 out of 29 pesticides_ correctly.**