

# rolling proof 2021

## Module vegetables and fruits

### Lettuce – P2118-RT



## Summary

The entire report is available to participants only.

Designed, realised and evaluated by

**PROOF-ACS GmbH**  
**Bremen, Germany**

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Dr. Birgit Schindler

**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 12682/2019, 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 2021, lettuce and raspberries 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 2021, 10 laboratories across six countries (Austria, Germany, Greece, 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 lettuce resp. raspberries. 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.

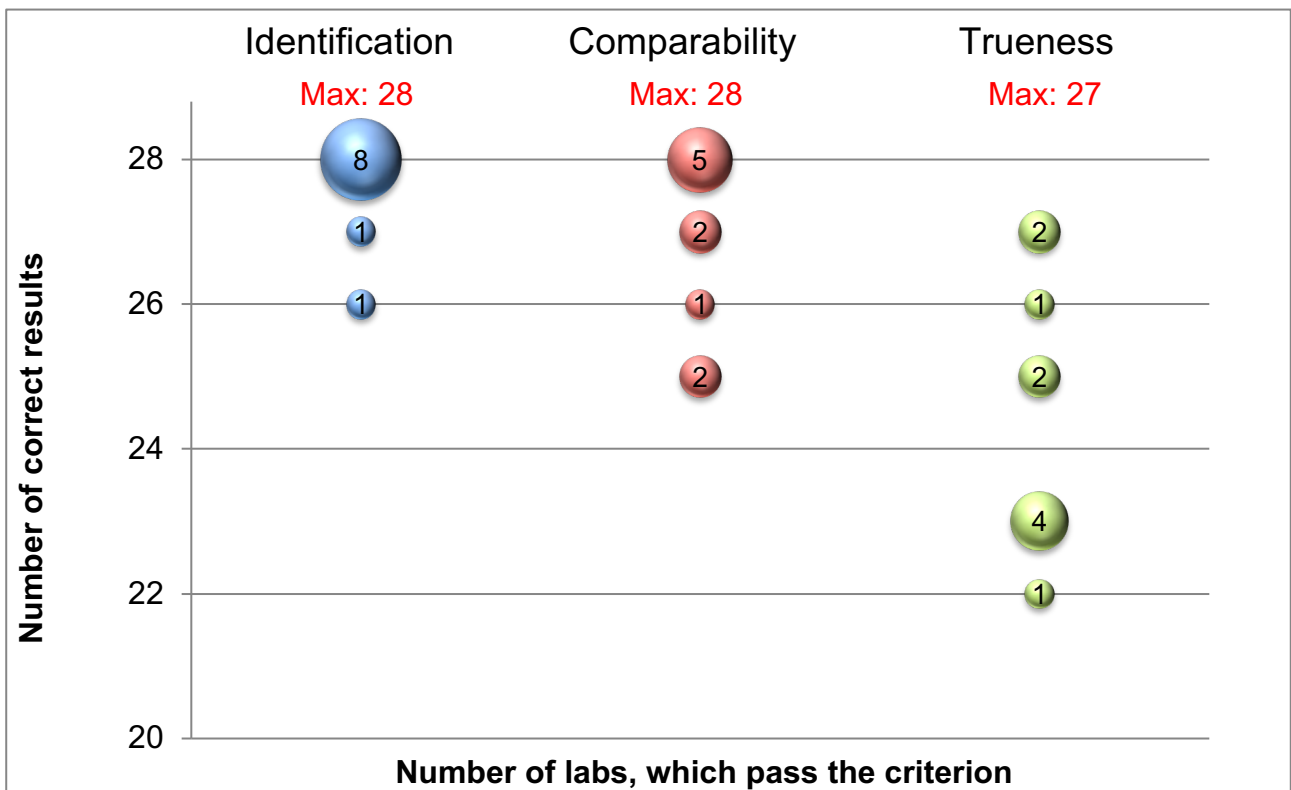
### **Test material lettuce (P2118-RT)**

The test material lettuce was spiked with 29 pesticides. 28 pesticides are considered for evaluation, while spirotetramat was excluded due to the degradation of the pesticide in the test material. The analytical challenge was to identify and quantify 28 pesticides in the test material lettuce. 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) |
|---------------------|----------------------|------------------------|-------------------------|--|--|
| Abamectin           | 0.051                | 0.0471                 | 9                       | 9  | 8  |
| Acetamiprid         | 0.14                 | 0.142                  | 10                      | 10   | 10   |
| Bifenthrin          | 0.034                | 0.0330                 | 10                      | 10   | 10   |
| Chlorantraniliprole | 0.093                | 0.0979                 | 10                      | 9  | 9  |
| Chlorpropham        | 0.048                | 0.0486                 | 10                      | 10   | 10   |
| Cymoxanil           | 0.022                | 0.0204                 | 10                      | 9  | 9  |
| Deltamethrin        | 0.031                | 0.0320                 | 9                       | 8  | 7  |
| Difenoconazole      | 0.066                | 0.0659                 | 10                      | 10   | 8  |
| Dimethoate          | 0.088                | 0.0830                 | 10                      | 10   | 10   |
| Dimethomorph        | 0.13                 | 0.122                  | 10                      | 10   | 10   |
| Fenamidone          | 0.15                 | 0.143                  | 10                      | 10   | 10   |
| Fipronil            | 0.030                | 0.0282                 | 10                      | 10   | 7  |
| Flutriafol          | 0.083                | 0.0806                 | 10                      | 10   | 9  |
| Imidacloprid        | 0.062                | 0.0631                 | 10                      | 10   | 8  |
| Indoxacarb          | 0.070*               | 0.0378                 | 10                      | 10   | Not evaluated  |
| Mandipropamid       | 0.45                 | 0.453                  | 10                      | 9  | 9  |
| Metalaxyl-M         | 0.025                | 0.0243                 | 10                      | 9  | 9  |
| Methoxyfenozide     | 0.058                | 0.0482                 | 10                      | 10   | 10   |
| Nitenpyram          | 0.026                | 0.0235                 | 10                      | 10   | 10   |
| Oxadixyl            | 0.033                | 0.0314                 | 10                      | 10   | 10   |
| Pendimethalin       | 0.044                | 0.0414                 | 10                      | 10   | 9  |
| Prochloraz          | 0.072                | 0.0642                 | 10                      | 10   | 10   |
| Propamocarb         | 0.14                 | 0.138                  | 10                      | 10   | 9  |
| Propyzamide         | 0.064                | 0.0641                 | 10                      | 10   | 10   |
| Spinosad            | 0.073                | 0.0737                 | 10                      | 9  | 8  |
| Spirotetramat (sum) | 0.091                | 0.0861                 | 9                       | 8  | 6  |
| Thiamethoxam        | 0.14                 | 0.136                  | 10                      | 10   | 10   |
| Tolclofos-methyl    | 0.052                | 0.0510                 | 10                      | 10   | 9  |

\* The spiked level of indoxacarb is provided for information only.

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



Total No of labs: 10