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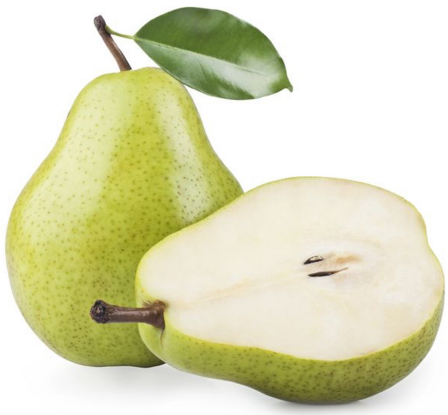
Ring test
Dithiocarbamates and/or dithianon in lettuce and pear
P2417-RT



Summary

The entire report is available to participants only.

The ring test was designed, realised, evaluated, and authorised on behalf of PROOF-ACS GmbH by

Dr. Birgit Schindler
Managing Director PROOF-ACS GmbH
Project coordinator

The report was approved by

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Participants with any comments or concerns related to this ring test are invited to contact:

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DAkkS
Deutsche
Akkreditierungsstelle
D-EP-22211-01-00

PROOF-ACS is a DAkkS accredited proficiency testing provider according to DIN EN ISO 17043:2010 (D-EP-22211-01-00). This ring test is covered by the scope of accreditation.

PROOF-ACS GmbH does not have any analytical laboratory facilities of its own. Homogeneity testing and stability testing are subcontracted to laboratories, accredited according to DIN EN ISO 17025. The subcontracted laboratory may also participate in the ring tests. If so, the laboratory is treated in the same way as other participants and the same rules of confidentiality apply.

The proficiency test evaluates the performances of laboratories with respect to their ability to quantify dithiocarbamates in lettuce and dithiocarbamates and dithianon in pears. 21 laboratories across eight countries (Belgium, Germany, Greece, Italy, Poland, South Africa, Spain, and Vietnam) took part in the proficiency test. The laboratories were free to choose the matrix (lettuce and/or pear) and the parameters (dithiocarbamates and/or dithianon) depending on their needs. Dithianon was offered for the matrix pear only.

The test material is prepared of organic pears resp. organic lettuce. The kernels and stems of the pears are removed, the pulp is deep-frozen and homogenised in a Robot Coupe R20 V.V. thereafter. The lettuce is cut into pieces and deep-frozen before homogenisation. Homogenisation and preparation of the blank material and the test material is performed with liquid nitrogen to avoid (resp. reduce) degradation of dithiocarbamates and dithianon. The homogenates are acidified to stabilise the spiked parameters.

The unspiked material is provided as blank material upon request. The blank material is tested for incurred residues. The blank material is free from incurred residues of dithiocarbamates and dithianon.

The raw material was spiked with thiram and dithianon (pear only) to prepare the test material.

20 labs kept the term of submission of results and are considered for evaluation.

The report contains an assessment related to

- the *comparability* of the results. The evaluation of the comparability is based on the z-score model. The absolute values of z-score should be at least ≤ 2. The comparability criterion is applied to dithiocarbamates in lettuce and pears.
- the *trueness* of the results is evaluated for information only. 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 trueness criterion is applied to dithiocarbamates in lettuce and pears.

Degradation of dithianon was observed for the matrix pears. Thus, the quantification of dithianon in pears cannot be evaluated. This part of the test is repeated in January 2025.

Results

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Assigned value in % of the spiked level	No. of results	No. of results with |z-score| ≤ 2
CS_2 in lettuce	0.11*	0.0729	66	9	7
CS_2 in pear	0.23*	0.137	60	13	12
Dithianon in pear	0.089*	-	-	-	-

* The spiked levels are provided for information only.

To summarise:

- 21 laboratories took part in the tests. 9 labs ordered dithiocarbamates in lettuce, 13 labs ordered dithiocarbamates in pear, and 16 labs ordered dithianon in pear. The reported results and are considered for evaluation.
- The results related to the dithiocarbamates are evaluated with respect to the comparability criterion. The evaluation with respect to the trueness criterion is provided for information only. The assigned values correspond to 66 % of the spiked level for the matrix lettuce resp. to 60 % of the spiked level for the matrix pear.
- An evaluation of the results related to dithianon is not feasible. A huge amount of degradation was observed for dithianon during preparation of the test material. Further degradation was observed throughout the time of the test. This part of the ring test related to dithianon is repeated in January 2025.