Facing analytical quality.

Ring test Dithiocarbamates in tomato and lemon P2019-RT

Summary

The entire report is available to participants only.

Designed, realised and evaluated by

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The proficiency test evaluates the performances of laboratories with respect to their ability to quantify dithiocarbamates as CS_2. Ten laboratories across five countries (Germany, Italy, Ireland, Netherlands, and Spain) took part. All laboratories kept the term of submission of results and are considered for evaluation.

Two test materials are provided:

- Tomato homogenate, spiked at a level of 0.072 mg/kg CS_2.
- Lemon homogenate, spiked at a level of 0.13 mg/kg CS_2.

The test materials are prepared of organic tomatoes and lemons, both free from incurred residues of dithiocarbamates at a level of 0.010 mg/kg. The tomatoes resp. lemons are homogenised and spiked with thiram thereafter. Liquid nitrogen is used throughout the whole process of preparation, spiking and bottling of the test material to keep the material in deep-frozen condition. The test material consists of a powdery ice. Therefore, sub-samples can be taken without thawing the test samples.

The sophisticated process of test material preparation at very low temperatures avoids a degradation of thiram and the loss of CS_2. The spiked levels are confirmed in the test material during homogeneity and stability testing.

Consequently, the performance of the laboratories in the test is evaluated according to

- 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 *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.

Summary of results:

Test material	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results	No. of participants, which pass the **comparability criterion**	No. of participants which pass the **trueness criterion**
CS_2 in tomato	0.072	0.0693	10	10	8
CS_2 in lemon	0.13	0.128	10	10	7