Facing analytical quality.

Ring test
Tropane alkaloids in herbal tea
P2015-RT

Summary

The entire report is available to participants only.

Designed, realised and evaluated by

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EU working groups are currently discussing maximum levels for tropane alkaloids in foods. Maximum levels of 25 µg/kg (sum of atropine and scopolamine) are discussed with respect to herbal teas, while maximum levels of 5 µg/kg are discussed with respect to herbal infusions for infants and young children.

Consequently, the proficiency test evaluates the performances of laboratories with respect to their ability to quantify the most prominent tropane alkaloids hyoscyamine and scopolamine at relevant concentration levels in blackberry leaves. Blackberry leaves are one of the main ingredients in herbal teas, which are often contaminated with tropane alkaloids.

The test material is prepared of organic dried organic blackberry leaves. The raw material is milled in small portions in a Retsch cutting mill pulverisette 15. The resulting powder is homogenised intensively and tested for incurred residues thereafter. The raw material is free from hyoscyamine and scopolamine (both < 1 µg/kg).

The milled and homogenised raw material is provided to all participants as blank material. In order to prepare the test material, the raw material was spiked with a solution of hyoscyamine and scopolamine and homogenised thereafter.

9 laboratories from Germany and France took part. All laboratories kept the term of submission of results and are considered for evaluation.

The report contains an assessment related to

- 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|.

Summary of results:

Parameter	Spiked level [µg/kg]	Assigned value [µg/kg]	Total number of results	No. of participants, which pass the **comparability criterion**	No. of participants which pass the **trueness criterion**
Hyoscyamine	9.0	7.63	8	7	6
Scopolamine	7.0	7.11	9	7	6