BULGARIAN DATA ACCOMPANYING REPORT

Sampling and Analysis of Needles and Leaves

In 2020 field survey work was conducted in the four Level 2 sample plots – Vitinya, Staro Oryahovo, Yundola and a Complex Background Monitoring Station Rojen (CBMS Rojen).

SP0003 Yundola

Collection and analysis of leaf and needle samples

The number of trees determined for leaf/needle sampling in the sample plot is 5. The determination of the dry mass of 100 leaves or 1000 needles was done by drying at 105 ^{0}C.

Samples of current year and second year needles were collected in Yundola station in the end of August 2020 and in CBMS Rojen in the first decade of September. Leaf sampling in Vitinya and Staro Oryahovo was carried out in August. The samples were delivered for analyses to the Executive Environment Agency (ExEA) Laboratory.

The leaf/ needle samples were analyzed for all mandatory and some optimal parameters. The analytical methods and the units for each of the measured parameters are shown below:

Sequence number	Parameter	Units	Standardized internal methods for analysis
1	**Ntot**	mg/g	ISO 11261 (Determination of total nitrogen — Modified Kjeldahl method)
2	**S**	mg/g	XR – x-ray fluorescence spectrometry
3	**P**	mg/g	UV-VIS-spectrophotometry-techniques
4	**Ca**	mg/g	AAS-flame technique (C2H2/Air)
5	**Mg**	mg/g	AAS-flame technique (C2H2/Air)
6	**K**	mg/g	AAS-flame technique (C2H2/Air)
7	**Corg**	g/100g	Micro Elemental-analyzers for C, N or S for solids (Sample < 100mg) with an extra milling step

8	**Zn**	µg/g	ICP-MS
9	**Mn**	µg/g	AAS-flame technique (C2H2/Air)
10	**Fe**	µg/g	AAS-flame technique (C2H2/Air)
11	**Cu**	µg/g	ICP-MS
12	**Pb**	µg/g	ICP-MS
13	**Cd**	ng/g	ICP-MS