BULGARIA DATA ACCOMPANYING REPORT
Soil solution Collection and analysis

The realization of the intensive monitoring program in Bulgaria was organized in 3 stationary areas. The stations are equipped with installations for collection of soil waters. The number and depth of which are installed collectors are as follow:

- Vitinia

The lysimeters were installed at 8 locations around the trees numbered from 1 to 8 on 2 depths. There are 8 samplers on 1st depth (-0.10 m) and 8 samplers on 2nd depth (-0.66 m). The number of samplers is 16.
For each sampling depth is made and analyze a mixed sample (8 replications);

- Staro Oriahovo

The lysimeters were positioned near the trees numbered 1, 2, 3, 7 and 8. They were installed at 7 locations on 3 depths. The exits are marked with 1, 2 or 3 black bands corresponding to the depts.:
1st depth
2nd depth
3rd depth

The number of samplers is 21.
For each sampling depth is made and analyze a mixed sample (7 replications);

- Yundola

The lysimeters were positioned near the trees numbered 1, 2, 3, 4 and 5. They were installed at 7 locations on 3 depths. The exits are marked with 1. 2 or 3 black bands corresponding to the depts.:
1st depth (-0.25 m)
2nd depth (-0.65 m)
3rd depth (-1.15 m)

The number of samplers is 21.
For each sampling depth is made and analyze a mixed sample (7 replications);

- Collection of soil solution samples – The frequency of collection and analytical methods are adopted according to the Manual.

The frequency of collection and analytical methods are adopted according to the Manual. There are two types mode of operation – summer mode with active sampling each month and winter mode without sampling of soil solutions. The duration of summer regime depends of the weather conditions in the area. The most crucial factor for the transition from summer mode of operation to winter mode is the reduction of the temperatures below 0ºC. The period for this transition may vary for the different regions. The change from the winter to summer mode of operation in 2011 was made as follows: In SP Vitinia on 19.04.2011, in SP Staro Oriahovo on 21.04.2011 and in SP Yundola on 20.04.2011. The transition from the summer to winter mode was done on: 26.10.2011 in SP Vitinia, 02.11.2011 in SP Staro Oriahovo and on 27.10.2011 in SP Yundola.
During the period of active sampling was not collected any soil solution quantity. Therefore **the data from this SP (0004) was excluded from this data report.**

The type of samples, sampling frequency, number and analyzed parameters are presented In the table:

Type of samples	Sampling frequency	Parameters
Soil solution	1 per month	pH, Conductivity, S-SO_4, N-NO_3, N-NO_2, Cl, N-NH_4, Na, K, Mg, Ca, Alkalinity, total N, N (Kelldal), Cu, Zn, Pb, Cd, Fe, K, Na

The analytical methods, units and limits of detection for the each other of parameters are given as follows:

Sequence number	Parameter	Units	Standardized/ internal methods for analysis	Detection limit
1	pH		БДС 17.1.4.27-80	4.0
2	Conductivity	µS/cm	БДС EN 27888	0.5

3	Alcalinity	µeq/l	БДС EN ISO 9963-1	100
4	Cl^-	mg/l	ISO 9297	0.003
5	$S\text{-}SO_4$	mg/l	ВВМ № 205	0.46
6	Ca	mg/l	БДС EN ISO 14911-2002	0.6
7	Mg	mg/l	БДС EN ISO 14911-2002	0.4
8	$N\text{-}NH_4$	mg/l	ISO 7150-1	0.005
9	$N\text{-}NO_2$	mg/l	EN 26777	0.0011
10	$N\text{-}NO_3$	mg/l	БДС EN ISO 7890-3	0.0003
11	N (Kelldal)	mg/l	БДС EN 25663	0.41
12	N(total)	mg/l	SUM(9,10,11)	–
13	Cu	mg/l	ISO 8288	0.001
14	Zn	mg/l	ISO 8288	0.001
15	Pb	mg/l	ISO 8288	0.001
16	Cd	mg/l	ISO 8288	0.001
17	P_PO_4	mg/l	БДС EN ISO 6878	0.01
18	Fe	µg/l	БДС ISO 6332	0.011
19	K	mg/l	БДС EN ISO 14911-2002	0.3
20	Na	mg/l	БДС EN ISO 14911-2002	0.15
21	DOC	mg/l	EN 1484	