



The Baltic Sea Project

ESTIMATION OF AIR QUALITY USING BIOINDICATORS

Test: condition of fir trees, lichens, tar spot fungus – protocol to be sent to co-ordinator

Date: 27.02.2010

School: Tartu Nature School

Teacher: Sirje Janikson

Class/Group: Geology

Address: Valga County, Marguse

Natural conditions and topographical situation (coastal, inland, mountain, plain): upland

Possible local source of pollution: none

I Fir trees

1, 2, 3. Investigating forest damage in fir trees

Name of the tree (fir, spruce or pine) fir

Tree no.	1	2	3	4	5	6	7	8	9	10	Mean value
1. Needle loss class (1, 2, 3)	1	1	2	1	1	1	1	1	1	1	1
2. No. generations of needles	10	10	9	7	4	7	6	10	7	9	8
3. Occurrence of fear shoots (1, 2, 3)	-	-	-	-	-	-	-	-	-	-	-

II Lichen

1. Counting the number of kinds of different types of lichen

Name of the tree (English or Latin name) *Fraxinus excelsior* L

Tree no.	No. kinds of crustose lichen	No. kinds of foliose lichen	No. kinds of fructicose lichen	Zone
1	2	2	1	4
2	2	3	1	4
3	4	2	3	4
4	3	3	3	4
5	3	3	2	4
			Mean value zone:	4

2. Determining the degree of coverage of the lichen

Name of the tree (English or Latin name) *Fraxinus excelsior L*

Tree no.	Coverage of crustose lichen in %	Coverage of foliose lichen in %	Coverage of fructicose lichen in %	Total coverage of the whole overhead film in %
1	38	5	2	45
2	3	2	35	40
3	5	90	2	97
4	3	47	50	100
5	21	25	10	56
Mean value :				67 %
Zone :				4

III. Tar Spot Fungus

Name of the maple tree (English or Latin name)-.....

Zone-.....

IV. Discussion of the result and the state of the air on a separate paper.

We made observations in winter camp, in South Estonia. It is recreation area. The air is not polluted because there are not big roads nor industries nearby. We found various species of every types of lichens. In conclusion we can say that the air is here very clean.