



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: 25.05.2010

School: Tallinn English College

Teacher: Kaisa-Helena Luht

Class/Group: G1/ Edgar Voit, Philip S.Veispak, Eerik S. Toomere, Brent S. Viin

Address: Estonia pst 10

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

Possible local source of pollution: Industries, traffic, transport

I Fir trees

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

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

| Tree no. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Mean value |
|--|---|---|-----|---|-----|-----|---|---|---|----|------------|
| 1. Needle loss class (1, 2, 3) | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1.1 |
| 2. No. generations of needles | 4 | 4 | 3,5 | 4 | 3,5 | 3,5 | 4 | 4 | 4 | 4 | 3,85 |
| 3. Occurrence of fear shoots (1, 2, 3) | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1,2 |

II Lichen

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

Name of the tree (English or Latin name) - Aspen

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

2. Determining the degree of coverage of the lichen

Name of the tree (English or Latin name) - Aspen

| Tree no. | Coverage of crustose lichen in % | Coverage of foliose lichen in % | Coverage of fruticose lichen in % | Total coverage of the whole overhead film in % |
|---------------------|----------------------------------|---------------------------------|-----------------------------------|--|
| 1 | 79 | 80 | - | 80 |
| 2 | 49 | 79 | - | 64 |
| 3 | 53 | 61 | - | 57 |
| 4 | 50 | 60 | - | 55 |
| 5 | 69 | 73 | - | 71 |
| Mean value : | | | | 65 |
| Zone : | | | | 4 |