

Instructions for sampling water in horticultural rockwool or glasswool slabs or drain

General information

For a reliable analysis of the main and trace elements, pH and EC of a slab solution a good sampling method is very important. If the sampling is not correct, wrong conclusions can be drawn with the (incorrect) analysis. There are some guidelines for correct sampling. For different crops, in age, cultivar or greenhouse, different samples have to be made. If within one section spots occur with abnormal growth, it is wise to sample these spots separately. For analysis of main and trace elements, pH and EC in watery solutions sample flasks are available. These flasks are made of polyethylene and have a volume of 250 ml. For soil, peat, coco, etc are laminated sample bags available.

One section must not be larger than 10.000 m². If a section is larger than 10.000 m², the section must be split in parts that are less than 10.000 m².

Hygiene

If sampling instruments are used on one location only, under normal circumstances, the instruments have to be disinfected every new planting. If there is high infection with root, or vessel pathogens during the cultivation of one planting, the sampling instruments have to be disinfected after sampling the location.

If sampling instruments are used on several locations, the instruments have to be disinfected between each location that is sampled.

Instruments

- Disinfecting solution (for instance 100 parts pro billion (ppb) NaOCl, or other disinfectant)
- Tap water
- Syringe and thick needle
- Sample flask

Frequency

Sample at least every two weeks.

Sampling method for slabs

- Disinfect Syringe by filling the needle and syringe with disinfecting solution
- Flush the disinfecting solution
- Rinse by filling the needle and syringe twice with tap water
- Rinse by filling the needle and syringe twice with water from a slab
- Sample 20 - 40 different slabs, spread equally over the section
- Sample at each slab 5-10 ml water
- Pierce the slab on the top side deep enough to reach water in the lower region of the slab
- Sample even numbers under and between rockwool blocks that are on the slabs
- Do not sample at the end of the slabs
- Fill the sample flask
- Disinfect Syringe by filling the needle and syringe with disinfecting solution

Sampling method for drain

- Cultures with water flows, or with little or no substrate, drain can be sampled directly
- If the drain is at least 30% in a system with recirculation, drain can also be sampled directly
- For measuring pH and bicarbonate (HCO_3), drain samples are not suitable (results are usually too high). The correct sampling point for these analyses is directly under the dripping point.