

UNDISTURBED SOIL SAMPLING

A successful laboratory analysis starts in the field. The result of an analysis is as good as the representativeness of the soil sample used.

The sampling procedure is basically determined by the analyses that need to be executed on this sample. Sometimes a fast profile description is important, sometimes an accurate chemical analysis or the volume percentage of humidity in a sample needs to be determined accurately.

04.16 Soil coring kit for chemical soil research

Soil sampling for the determination of the presence of very volatile components such as benzene, toluene, xylene and chlorinated hydrocarbons should be executed with samplers that prevent the sample from being exposed to air. Preferably the sampling must be done without disturbance of the soil aggregates to prevent mixing with air.

These conditions must be maintained during transport to the laboratory.

With the special coring kit, volatilization and oxidation of components in soil samples can be prevented as much as possible. The sample under no condition comes in touch with synthetic material. The method meets the NEN 5743 norm (soil or sediment sampling with volatile components).

The sample has a volume of 226 ml. The set therefore also is suitable for the determination of volume percentages of humidity in samples from undisturbed soil.

The samples are taken with a small coring apparatus fitted with thin-walled stainless steel sample tubes. The sampling tubes preferably are pushed into the soil; possibly a steel hammer with nylon heads can be used.



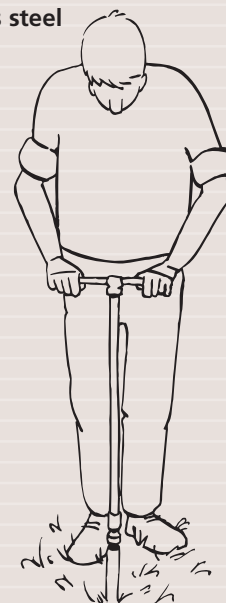
Soil coring kit for chemical soil research

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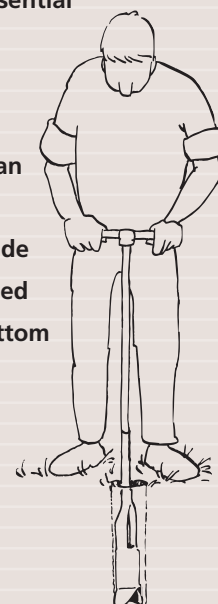
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The stainless steel sample tube is pushed into the soil from the ground surface.



If it is not necessary to take surface samples, it is essential to pre-bore the hole to the required depth with the Edelman auger.

Next the Riverside auger can be used to make the bottom of the hole flat.



BENEFITS

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- Prevents loss of volatiles during sampling
- Prevents loss of volatiles during transport
- No hassle in the field with methanol
- Can be combined with methanol method
- Can be hammered in hard soils
- Tubes can be decontaminated over and over

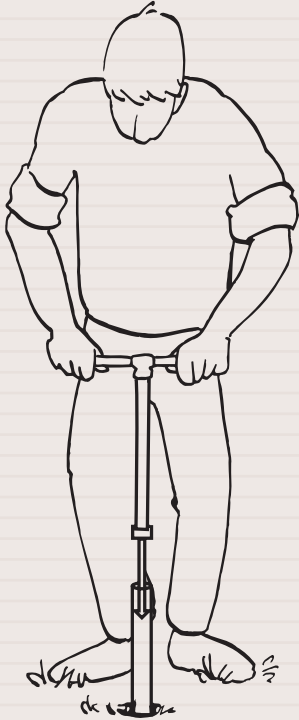


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A deeper sample is taken from the pre-bored hole.



Immediately after removing the coring apparatus from the sample tube with sample, the empty space is filled with a stainless steel filling block.



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After taking the sample, the sample tubes can be locked and cooled for transport to the laboratory. Here sub-samples can be taken from the sample tube, applying a small gauge or apple-corer. The samples can also be removed using an extruder. After decontamination the equipment can be used again.

The set contains among other things: an Edelman auger to pre-bore or clean the bore hole, in various types of soil, a stainless steel soil coring apparatus with a number of sample tubes, filling blocks and insulation plates.

Further bottom caps, a sample extruder and maintenance material. The complete set is packaged in an aluminum transport case.

It is possible with this set to take samples to a depth of more than 5 meters.

Advantages

- ❑ Sampling system that meets the norm for determination of volatile components in soil or sediment.
- ❑ Suitable for the determination of the volume percentage of humidity.
- ❑ No exposure of the sample to air.
- ❑ Transportation of samples in pots is not necessary.
- ❑ Because of the small penetration resistance and the hammer with nylon heads, the set is also suitable for harder soils.
- ❑ The auger fitted with valve ensures through creating a vacuum, that the sample remains in the tube during extraction.
- ❑ For application in very loose soil a sampler tube with core catcher and liner is available.



Coring apparatus with sample tube



Tubes, filling blocks and insulation plates



Sample extruder