

SOIL COLUMN CYLINDER AUGER

The soil column cylinder auger has been developed to take undisturbed soil samples. This allows a fast insight in the build-up of the soil profile, the possibilities for a root system, etc. The more insight in these matters, the more effective fertilization and treatment of the soil can be done.

05.07 The soil column cylinder auger

To execute general examination of the soil profile another method has been developed where samples are taken from the soil applying the soil column cylinder auger.

Applying this system it is possible to take un-disturbed samples with a length of 100 cm and a diameter of 93 mm, without digging a profile pit. The soil column cylinder auger is hammered into the soil applying a gasoline driven mechanical hammer (on special request an electrical driven hammer).

The cylinder has a removable side, among other things, for checking and/or for sub-sampling of the

soil column.

In the standard set among other things there are a gasoline driven mechanical hammer, a stainless steel soil column cylinder, a hand auger, an extraction system and sample gutters.

Advantages

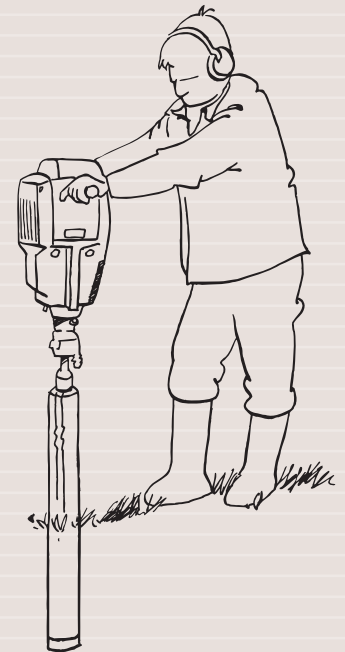
The advantages of the soil column cylinder auger are:

- The large diameter and the length of the sample.
- The soil column cylinder usually can be hammered into the soil with very little effort; also the extraction usually is not very difficult.
- The sample is lying loose in the cylinder and can therefore be removed without effort.
- The soil column is hardly compressed (= hardly disturbed).
- After taking one sample the total soil profile can be studied.
- Less time consuming and less disturbing than digging a profile pit.

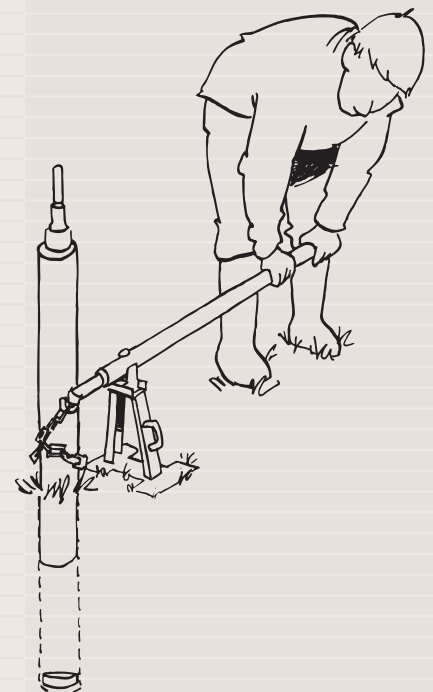


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The soil column cylinder is hammered into the soil applying a gasoline driven mechanical hammer.



Pulling out the soil column cylinder with steel lifting jack and lever with chain.



Set with soil column cylinder auger

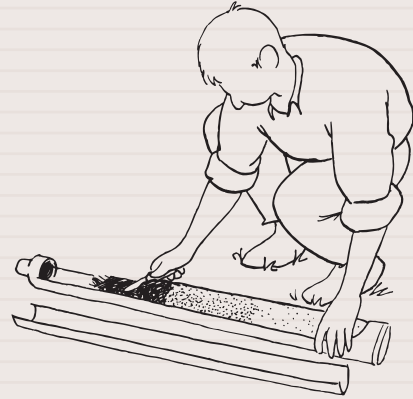


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After taking only one sample the whole soil profile can be studied.



After the cutting shoe has been freed applying the hand operated auger, it is extracted using a steel hook.



- ❑ The device is readily portable.
- ❑ The device is simple to operate.
- ❑ Can be applied to virtually all types of soils (also between crops).
- ❑ Causes a minimum of inconvenience and/or damage to those using the soil.

Limitation: hard to apply on wet soils, stony and/or rocky soils.

Applications

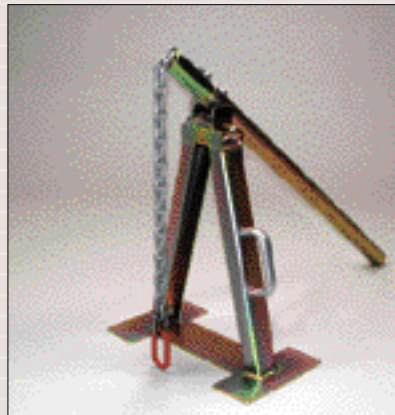
The soil column cylinder, among other things, can be used for:

- ❑ Structure description of the soil (also the very thin layers).

- ❑ Investigation of the root to gain insight in the possibilities for a root system considering depth and intensity.
- ❑ Determination of contents and density of the soil using undisturbed samples.
- ❑ Researching the moisture content and the concentration of dissolved substances in long running field studies.
- ❑ Studies after the flow behavior of water and dissolved substances in for instance soils where very preferential moisture transport occurs.
- ❑ Archeological research.



Soil column cylinder



Extraction system



Sample gutter with sample