

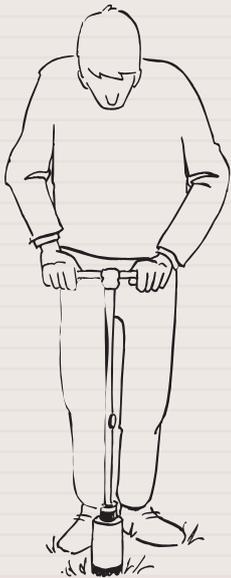


You will return to the contents of P1 SOIL by clicking the pictogram

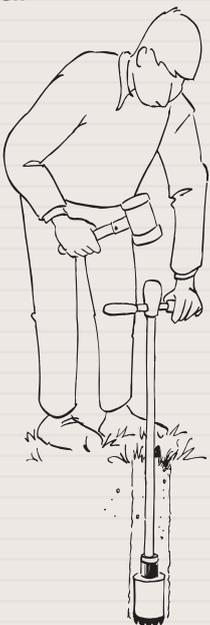
PLANT ROOT SAMPLING

P1.32

The root auger is pushed into the soil from the surface by simply turning and pushing downward at the same time.



After reaming out the bore hole (to avoid the auger friction in the bore hole) the auger is hammered in the bottom of the bore hole applying an impact absorbing hammer.



Root research is executed to improve the insight in the possibilities for root growth (depth and concentration) of the root system of trees and plants.

In general it is important to all plants to have a dense and extensive root system in the soil. An extensive root system allows the plant to benefit from a large volume of soil. If sufficient quantities of nutrients and water are present the absorption will be larger if the root system is more extensive.

Measuring the root system also is a useful means of localizing physical and/or chemical barriers in the soil profile.

If the root system researched deviates substantially from an 'ordinary' root system, then this is usually due to the following profile characteristics:

- Presence of layers that are hard to penetrate by roots, for example plough layers, bog ore, heavy clay and loam layers.
- Sharp contrast in profile, e.g. clay to sand, a soil rich of humus to a soil poor of humus (sand), etc.
- High groundwater level.

- Strongly fluctuating groundwater levels.
- Acidic layers.
- Poor oxygen content in the sub soil.

When comparing the root density of different soil samples, it is essential to compare samples of equal surface and contents.

05.01 Single root auger

The single root auger is used to take undisturbed samples for root investigations in soils with low penetration resistance. Samples with a length of 15 cm can be taken to a depth of max. 1 m.

05.02 Bi-partite root auger, standard set for sampling to a depth of 2 m

By applying the bi-partite root auger almost undisturbed, uniform soil samples can be taken in layers of maximal 15 cm. The bi-partite root auger consists of a bottom part fitted with an exchangeable drilling-crown and a short unscrewable top part (handle) with a beating head.



Bi-partite root auger set