

Gouge auger set for top layers

Manual



Meet the difference

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On these operating instructions



If the text follows a mark (as shown on the left), this means that an important instruction follows.



If the text follows a mark (as shown on the left), this means that an important warning follows relating to danger to the user or damage to the apparatus.

Description

The standard gouge auger set for top layers consists of an auger for arable land (1), a mineral gouge auger (2) and two thumb spatula (3). The set is used for sampling of the top layers of agricultural land.

Gouge augers have an almost half cylindrical auger body with parallel cutting edges running from top to bottom. The gouge augers in this set have a 13 mm diameter. The auger bodies are fitted with a 5 cm graduation. The fully galvanised arable land auger has an operational length of 25 cm and an overall length of 58 cm.

The mineral gouge auger has an operational length of 60 cm and an overall length of 110 cm. The handle is galvanised, the auger body is not.

The thumb spatula consists of a stainless steel shaft which can be slid around the thumb. It is applied to remove the contents from both gouge augers.

Use of the gouge augers

1. The gouge auger is pushed vertically in an upright position (without revolving the auger) into the soil. In one single push a sample can be taken with a maximum length equal to the operational length of the gouge auger. If the soil is very dense then additional force can be applied by pushing with the knee.
2. After insertion the gouge auger must be revolved in order to cut loose the sample volume.



Revolving the full gouge auger simplifies pulling it up and prevents loss of sample. Revolve the auger completely around its axis without pushing it further down.

3. Gently pull the full auger while revolving it slowly. The twisting motion prevents loss of sample as it relieves the possible suction under the auger.
4. The gouge auger is emptied by pushing the sample outward using the thumb spatula. To this purpose one should push your thumb in the shaft of the spatula. Make sure that you do not injure your fingers on the cutting edges.





The cutting edges are very sharp and may cause injury if not applied properly.

Notes:

- If the gouge auger is subject to a lot of vertical resistance then the horizontal resistance will be high as well. The risk of torsion of the auger body during revolving is thus increased. Solve this problem by revolving the gouge auger every now and again before pushing it further down.



Do not force the gouge auger or hammer it down. Such action may cause serious damage.

- In order to be able to take sample deeper another type of auger must be applied, for instance an Edelman auger or a different type of gouge auger.

Applications

Because of their short operational length and small diameters the augers in this gouge auger set are used for sampling of the top layers of agricultural land. They are particularly applied for:

- Fertilisation research.
- Nitrate determination.
- Checking the state of attendance of the soil.

The arable land auger is applied to take samples to a depth of 25 cm from the furrow. By taking 40 samples an overall mixed sample of approximately 2 kg is obtained. If the sample locations are distributed over the parcel sensibly then this research yields reliable data concerning the soil composition. Using the mineral gouge auger samples are taken from the top layer to a depth of 60 cm.

Problems and solutions

- Pushing the auger down requires a greater physical effort as the gouge auger meets substantial resistance. Solve this problem by revolving the gouge auger every now and again before pushing it further down, or by taking a shorter sample.
- Loss of sample occurs during insertion. This can occur because the sample is cut loose (by revolving) from the soil too often while pushing the auger down, so it loses cohesion. A change of soil type to a less cohesive type of soil may also cause this effect.