

Soil Sampling Equipment

Equipment	Applicability	Advantages & Disadvantages
Trier	Soft surface soil	<ul style="list-style-type: none"> ▪ Inexpensive ▪ Easy to use and decontaminate ▪ Difficult to use in stony, dry, or sandy soil
Scoop, trowel, spoon, or spatula	Soft surface soil	<ul style="list-style-type: none"> ▪ Inexpensive ▪ Easy to use and decontaminate ▪ Trowels with painted surfaces should be avoided
Tulip bulb planter	Soft soil, 0 to 6 inches	<ul style="list-style-type: none"> ▪ Easy to use and decontaminate ▪ Uniform diameter and sample volume ▪ Preserves soil core (suitable for volatile organic analysis (VOA) and undisturbed sample collection) ▪ Limited depth capability ▪ Not useful for hard soils
Spade or shovel	Medium soil, 0 to 12 inches	<ul style="list-style-type: none"> ▪ Easy to use and decontaminate ▪ Inexpensive ▪ Can result in sample mixing and loss of volatile organic compounds (VOCs)
Vehimeyer soil outfit	Soil, 0 to 10 feet	<ul style="list-style-type: none"> ▪ Difficult to drive into dense or hard material ▪ Can be difficult to pull from ground
Soil coring device and auger	Soft soil, 0 to 24 inches	<ul style="list-style-type: none"> ▪ Relatively easy to use; preserves soil core (suitable for VOA and undisturbed sample collection) ▪ Limited depth capability ▪ Can be difficult to decontaminate
Thin-walled tube sampler	Soft soil, 0 to 10 feet	<ul style="list-style-type: none"> ▪ Easy to use; preserves soil core (suitable for VOA and undisturbed sample collection) ▪ May be used to help maintain integrity of VOA samples ▪ Easy to decontaminate ▪ Can be difficult to remove cores from sampler
Split-spoon sampler	Soil, 0 inches to bedrock	<ul style="list-style-type: none"> ▪ Excellent depth range ▪ Preserves soil core (suitable for VOA and undisturbed sample collection) ▪ Acetate sleeve may be used to help maintain integrity of VOA samples ▪ Useful for hard soils ▪ Often used in conjunction with drill rig for obtaining deep cores

Note: Samplers may not be suitable for soils with coarse fragments. Augers are suitable for soils with limited coarse fragments; only the stoney auger will work well in very gravelly soil.

Source: Table 5-1: "Soil Sampling Equipment" from EPA SOP, *Soil Sampling*, Env 3.13, August 1997