

Soil quality and plant growth

Background

- Soil has physical, chemical and biological components which determine its type, structure, fertility and usefulness.
- Soil type is determined by constituent parts (especially the ratio of clay, sand and silt).
- Soil fertility and water holding capacity are governed by soil type and organic matter content.
- Soil quality is a combination of all of these.
- Soil quality can be reduced by chemical toxicity and other environmental burdens
- This trial is designed to demonstrate the effect of good (compost) and bad amendments (salt, copper sulphate) on a strawberry crop.



Soil characterisation by type

Soil type	% H2O	%SOM	pH	%N	%C	P (ug/ml)	K (ug/ml)
Organic	69.8	11.2	5.7	1.4	18.1	86.4	328.5
Sand	13.4	0.9	7.0	0.1	1.4	66.0	189.4
Sandy loam	26.7	2.0	7.0	0.2	2.4	115.7	296.6
Silt	17.1	1.3	5.9	0.1	1.2	73.8	163.6

Methods

- Four soils:
 - sand
 - sandy-loam
 - organic
 - silt
- Four treatments:
 - unamended
 - amended with compost
 - amended with salt
 - amended with copper sulphate

The Puzzle:

- Using the information provided on this poster and by observation of the potted plants on the bench:
- **Can you determine which soil is which and which soils have been amended and with which substance?**



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