

Structure is one of the defining characteristics of soil. Well-developed structure encourages deeper rooting, and improves soil aeration and drainage. The more strongly developed and finer the structure, the better for crop growth. Structural development is influenced by interactions between soil chemistry, physical processes and soil biota. The strongest structures are associated with base-rich soils, high organic matter content, intense rooting and a rich and varied soil biology.

Good structure is achieved by:

- » Maintaining or enhancing soil organic matter levels
- » Maintaining a continuous crop cover
- » Encouraging deep rooting
- » Minimising soil disturbance
- » Minimising the weight of field machinery
- » Avoiding fieldwork when the soil is at a moisture content that renders it plastic and deformable.

Soil structure is described using the following three characteristics.

1) Degree of development

Soil structure can be:

Strongly developed – natural aggregates are clearly evident in undisturbed soil and the soil breaks apart easily into discrete, natural aggregates with little force.

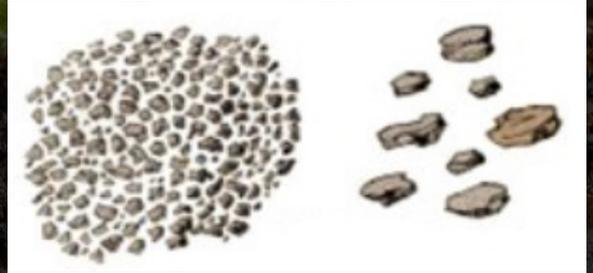
Moderately developed – natural aggregates are evident in undisturbed soil and the soil comes apart into a mixture of natural aggregates, fragments and some unaggregated material.

Weakly developed – natural aggregates are just about/partially evident in undisturbed soil and the soil, when broken apart, forms a mix of weakly defined aggregates, fragments and unaggregated material.

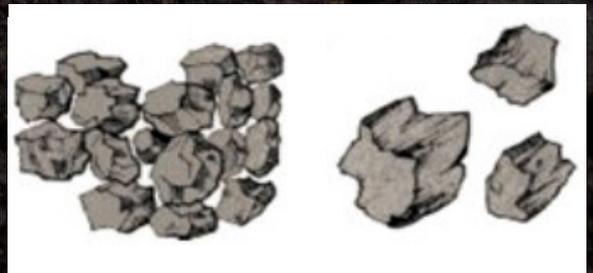
Unstructured soils can be *massive* (difficult to break apart) or *single grain* (e.g. loose sand).

2) Shape

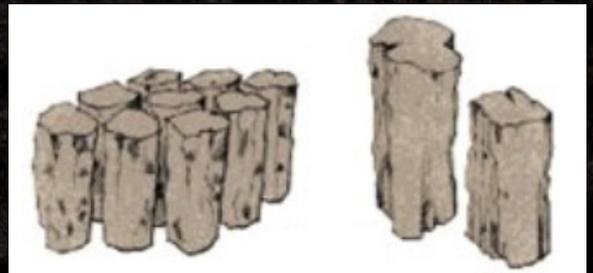
A) Granular



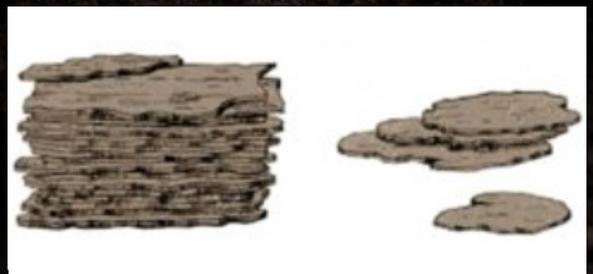
B) Blocky



C) Prismatic



D) Platy



3) Size

Aggregate sizes (mm)	Granular	Blocky	Prismatic (width)	Platy (depth)
Very fine	<1	<5	<10	<1
Fine	1 - 2	5 - 10	10 - 20	1 - 2
Medium	2 - 5	10 - 20	20 - 50	2 - 5
Coarse	5 - 10	20 - 50	50 - 100	5 - 10
Very coarse	>10	>50	>100	>10

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