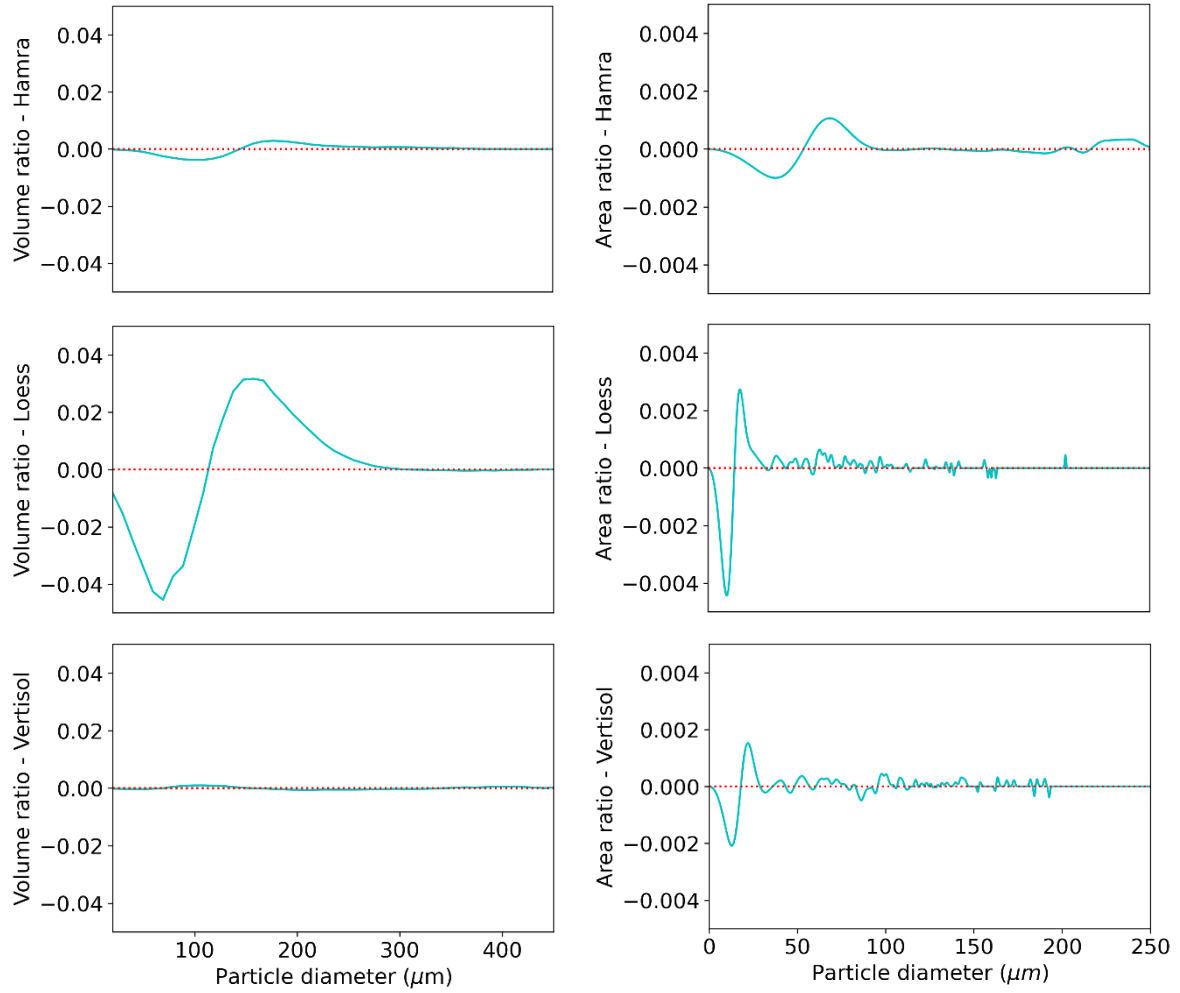


## Supplementary information



Figure S1: Mean weight diameter (MWD) values of the Loess and Vertisol soils pre and post mucilage addition



**Figure S2: Subtraction of the aggregate size distributions of the soils (mucilage minus the control), (a-c) derived from micro-CT measurements and presented as volume ratios and (d-f) derived from SEM images presented as area ratios.**

**Table S1 – Aggregate size frequency pre mucilage and ADI values pre and post mucilage addition of the soils' fractions.**

| Soil            | Aggregate size (µm) | Aggregate size frequency (w/w) | ADI     |          |                    |
|-----------------|---------------------|--------------------------------|---------|----------|--------------------|
|                 |                     |                                | Control | Mucilage | Stability increase |
| <b>Hamra</b>    | <50                 | 0.014                          | 0.070   | 0.090    | 0.276              |
|                 | 50-100              | 0.036                          | 0.040   | 0.090    | 1.277              |
|                 | 100-250             | 0.645                          | 0.006   | 0.008    | 0.430              |
|                 | 250-2000            | 0.304                          | 0.007   | 0.005    | -0.311             |
| <b>Loess</b>    | <50                 | 0.118                          | 0.060   | 0.081    | 0.349              |
|                 | 50-100              | 0.498                          | 0.036   | 0.059    | 0.630              |
|                 | 100-250             | 0.231                          | 0.044   | 0.058    | 0.312              |
|                 | 250-2000            | 0.153                          | 0.072   | 0.078    | 0.079              |
| <b>Vertisol</b> | <50                 | 0.075                          | 0.209   | 0.246    | 0.176              |
|                 | 50-100              | 0.145                          | 0.334   | 0.375    | 0.123              |
|                 | 100-250             | 0.297                          | 0.491   | 0.516    | 0.051              |
|                 | 250-2000            | 0.484                          | 0.465   | 0.453    | -0.025             |