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Strength of Individual Soil Aggregates Against Crushing Forces I. Influence of Aggregate Characteristics

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Abstract: This study was undertaken to determine the relative strength of individual soil aggregates of different sizes and shapes against crushing forces. Soil aggregates were placed individually between a clean-fixed flat surface and a flat plate connected to a pocketpenetrometer and crushed under applied stress. The results of this study show that the strength of the aggregates against disruptive forces was directly related to aggregate size and shape. As the aggregate size increased, so did the applied stress required to crush the aggregate. Significant relationships were found between applied stress and the mass, volume, average diameter (D avg) and geometric mean diameter (D gm) of the aggregates.

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