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Many characteristics of a tilled layer influence soil environment which effects plant response to tillage inputs. Among these the size distribution of soil aggregates is important as it determines the susceptibility to erosion and effect seedling emergence.

The objective of this study was to characterize the dry aggregate size distribution subsequent to tillage with different antecedent moisture and varying number of passes for Reddish Brown Earth soils. The soil was tilled using a rotavator at antecedent moisture contents varying from 0.12 to 0.22 g/g with one and two passes. Soil samples were removed to characterize aggregate size distribution using the dry sieving method².

The aggregate size distribution subsequent to tillage for all the treatments fitted well to a logarithmic-normal distribution. The aggregate indices, log geometric mean diameter and standard deviation, which uniquely characterized the given distribution were used for statistical analysis. The log mean diameter decreased and standard deviation increased with increasing number of passes. There was no significant difference in aggregate indices with different antecedent moisture levels.

References

1. Gardner, W.R. (1956). Representation of soil aggregate-size distribution by a logarithmic normal distribution. *Soil Sci Soc Am Proc* 20: 151-152
2. Kemper, W.D. and Chepil, W.S. (1965). Size distribution of aggregates. In C.A. Black (ed.) *Methods of Soil Analysis, Part I (ASA Monograph No.9.)*