# Aggregate C and N as Affected by Tillage and Manure. (S03-mikha152742-Poster)

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## Abstract:

Soil aggregation is an important process associated with soil C and N storage. We examined the effect of long-term (10 yr) tillage (no-tillage (NT), conservation tillage (CT)) and N sources (manure(M), and fertilizer (F)) on the distribution of, aggregate-associated C and N, and labile C and N. Samples were separated into four aggregate size fractions macroaggregates (>2000 and 250-2000 micron) and microaggregates (53-250 and 20-53 micron) by wet sieving from Kennebec silt loam. Manure-NT was greater than M-CT by 44% and 35% for total C and N, respectively. Total C and N were greater with NT-F than CT-F by 18% and 12%, respectively. Significantly greater (p < 0.05) amounts of macroaggregates were present in NT compared with CT, with a corresponding shift in the proportion of microaggregates in CT. Tillage aggregate size and their interactions (p<0.05) significantly affected aggregateassociated C and N. Labile C and N were significantly greater in macroaggregates compared with microaggregates. No-tillage and M improved soil aggregation, whole soil C and N, and aggregate-associated C and N compared with CT and F.

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