



Resilience Emerging  
from Scarcity and Abundance

2016 MEETING  
Nov. 6-9 | Phoenix, AZ

American Society of Agronomy | Crop Science Society of America | Soil Science Society of America

**Start** **101054 Profile Soil C and N after 25 Years of Tillage and Soil Amendments.**

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**CEU Approved Sessions**

*Tuesday, November 8, 2016*  
*Phoenix Convention Center North, Exhibit Hall CDE*

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Poster Presentation  
[Profile Soil C and N after 25 Years of Tillage and Soil Amendments.pdf \(277.3 kB\)](#)

**Abstract:**

Soil organic carbon (SOC) and N (SON) in agricultural soils are affected by anthropogenic activities. The objective of this study was to determine the effect of N source and tillage on profile soil C and N after 25 years. Soil samples were collected to a depth of 120-cm on a Kennebec silt loam at the North Farm Agronomy Research Station, Manhattan, KS. Soil organic C and N were significantly affected by the interaction of tillage and depth, and source (fertilizer and manure) and depth respectively. Stocks of SOC and SON were significant. Stocks of SOC ranged from 59 Mg C ha<sup>-1</sup> to 98 Mg C ha<sup>-1</sup> for control and manure treatments under No-till compared with tillage that had 48 Mg C ha<sup>-1</sup> to 75 Mg C ha<sup>-1</sup> in the 0-30 cm depth. For the 0-120 cm depth SOC stock ranged from 191 Mg C ha<sup>-1</sup> to 240 Mg C ha<sup>-1</sup> for control and manure treatments under No-till compared with tillage that had 190 Mg C ha<sup>-1</sup> and 218 Mg C ha<sup>-1</sup>. Stocks of SON for control and manure treatments under NT was 4 and 10 Mg N ha<sup>-1</sup>, and 14 and 21 Mg N ha<sup>-1</sup> for the 0-30 cm and 0-120 cm depths, respectively. With tillage SON stocks under control and manure treatments were 4 Mg N ha<sup>-1</sup> and 11 Mg N ha<sup>-1</sup>, and 14 Mg ha<sup>-1</sup> and 18 Mg ha<sup>-1</sup> respectively. In conclusion, NT and Manure increased stocks of SOC and SON to a depth of 120 cm.

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