Table 13. Mean total root mass (WT), carbon (C), and nitrogen (N) for each site and cropping system.

 **SF SREC PTEBS All Sites**

**Treatment Wt C N Wt C N WT C N Wt C N**

 -----------------------------------------(Mg/ha)-------------------------------------------

**CT and CW Comparison**1

CT 3.3 1.2 0.05 2.8 0.9 0.04 4.3 1.4 0.07 3.5a2 1.2a 0.05a

CW 6.4 2.2 0.07 4.0 1.6 0.04 3.3 1.3 0.05 4.6a 1.7a 0.05a

**CT and SG Comparison**3

CT 3.3 1.2 0.05 4.3 1.4 0.07 3.7b 1.3b 0.6a

SG 6.4 2.4 0.06 6.9 2.7 0.06 6.7a 2.5a 0.6a

1 Comparison using all three study sites

2 Mean root mass, C, or N (all sites) with the same letter are not significantly different (p=0.10) for a specific treatment comparison.

3Comparison using only the PTBES and SF study sites.

Table 14. Soil mineral N and C content in 2009 and 2012 as well as the differences between contents between 2012 and 2009 (2012-2009) for each treatment comparison.

 **2009 2012 2012-2009**

**Treatment N C N C N C**

 -------------------------------------(Mg/ha)-------------------------------------

**CT and CW Comparison**1

CT 3.29 34.9 3.23 35.8 -0.06a 0.8a2

CW 3.32 35.5 3.35 38.2 0.03a 2.6a

**CT and SG Comparison**3

CT 3.43 35.1 3.23 35.3 -0.20a 0.1a

SG 3.14 33.9 3.16 36.1 -0.21a 2.2a

1 Comparison using all three study sites

2Changes in N or C contents (2012-2009) with the same letter are not significantly different (p=0.10) for a specific treatment comparison.

3Comparison using only the PTBES and SF study sites.

Table 15. Soil microbial biomass C (mg/kg), labile C (mg/kg), dehydrogenase activity (mg/g), and potential C turnover rates (days) in December 2011. For each comparison, means within a column followed by a different letter differ at P < 0.10.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| **Treatment** | **Microbial C** | **Labile C** | **Activity** | **Turnover** |
| **CT and CW Comparison1** |  |  |  |  |
|  CT | 375.8 b | 1037.3 a | 3.9 b | 64.4 a |
|  CW | 458.2 a |  908.4 a | 8.8 a | 43.9 b |
| **CT and SG Comparison2** |  |  |  |  |
|  CT | 387.6 a | 905.6 a | 5.8 b | 52.2 a |
|  SG | 439.2 a | 875.8 a | 10.2 a | 43.6 a |

1Comparison using all three study sites

2Comparison using only the PTBES and SF study sites.

Table 16. Comparisons of mean soil water constituent concentration (mg/L) between the CT and CW as well as the CT and SG cropping systems.

**Treatment NO3-N NH4-N Total N Organic N Total C Organic C**

 -----------------------------------(mg/L)-----------------------------------

**CT and CW Comparison**1

CT 2.46a2 0.48a 3.95a 0.99a 13.3a 5.70a

CW 0.37b 0.12a 0.79b 0.31b 14.7a 4.48a

**CT and SG Comparison**3

CT 3.31a 0.56a 5.12a 1.21a 11.98a 5.74a

SG 0.39b 0.09a 0.73a 0.25b 15.15a 2.46a

1 Comparison using all three study sites

2Means for a specific constituent and comparison with the same letter do not significantly differ (p=0.10)

3Comparison using only the PTBES and SF study sites.