Table 4 Soil organic carbon (SOC) density (Mg C ha-1) in 0-20, 20-40, 40-60 cm in winter wheat – summer maize double cropping system for the year 2006 and 2012

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Treatmenta | | 0-20 cm | | 20-40 cm | | 40-60 cm | |
| Nitrogen | Straw | 2006 | 2012 | 2006 | 2012 | 2006 | 2012 |
| Treatment effect (n = 3) | |  |  |  |  |  |  |
| N0 |  | 20.2 | 18.1±1.2cb | 19.6 | 17.2±0.9a | 16.6 | 15.1±0.8a |
| N0 | S | 20.2 | 22.2±1.3bc | 19.6 | 17.8±2.7a | 16.6 | 16.5±0.7a |
| Nopt |  | 20.2 | 24.2±0.5b | 19.6 | 16.5±0.5a | 16.6 | 16.0±1.0a |
| Nopt | S | 20.2 | 25.3±2.9b | 19.6 | 19.4±3.0a | 16.6 | 16.3±1.4a |
| Ncon |  | 20.2 | 24.9±3.8b | 19.6 | 19.9±2.6a | 16.6 | 16.2±0.3a |
| Ncon | S | 20.2 | 30.8±4.3a | 19.6 | 20.7±3.4a | 16.6 | 16.7±2.2a |
| Nitrogen effect (n = 6) | |  |  |  |  |  |  |
| N0mean | | 20.2 | 20.2±2.1b | 19.6 | 17.5±1.7a | 16.6 | 15.8±0.5a |
| Noptmean | | 20.2 | 24.7±4.0a | 19.6 | 18.0±1.4a | 16.6 | 16.2±0.4a |
| Nconmean | | 20.2 | 27.8±3.4a | 19.6 | 20.3±2.6a | 16.6 | 16.4±1.2a |
| Straw effect (n=9) | |  |  |  |  |  |  |
| Without straw | | 20.2 | 22.4±1.3a | 19.6 | 17.9±1.1a | 16.6 | 15.7±0.4a |
| With straw | | 20.2 | 26.1±1.7a | 19.6 | 19.3±2.3a | 16.6 | 16.5±1.2a |

a N0, Nopt and Ncon are control, improved Nmin test and farming practice, respectively. S is straw return.

b Different letters within the same column denote significant differences between treatments (*P*<0.05).