Online supplement materials



**Fig. s1.** Total N, available N in soil contrarily correlated with SOC and SIC. Data were from Institute of Soil Science CAS(1978), Wei (1979), ASDIS(1982), HLJTR editorial committee(1992), JLTR editorial committee(1992), Jia (1992), Wang et al.(1994), Yan et al.(1994) and ARZOQ(1997).

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**Fig. s2.** Correlations between total P, available P in soil and content of SOC and SIC. Data origin is the same to Fig.s1.



**Fig. s3.** Correlations between total K, available K in soil and content of SOC and SIC. Data origin is the same to Fig.s1.



**Fig. s4.** Soil pH, CEC contrarily correlated with SOC and SIC. Data origin is the same to Fig.s1.

Table S1 Concurrent measurement of SOC and SIC under variable soil fertilization and management practices in designed experiments

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Depth | Treatment | SOC | SIC | SIC+SOC | Method | Sites/soil | Ref. |
| 0-20cm# | CK | 5.67 | 6.54 | 12.21 | 18-year long term fertilization | Hebei/Fluvo-aquic soils | Jin 2006 |
| NPK | 6.4 | 5.53 | 11.93 |
| N | 6.3 | 5.99 | 12.29 |
| NP | 5.97 | 6.86 | 12.83 |
| NK | 5.64 | 6.69 | 12.33 |
| P | 5.38 | 6.34 | 11.72 |
| 20-40cm# | CK | 4.34 | 6.62 | 10.96 | 18-year longterm fertilization | Hebei/Fluvo-aquic soils | Jin 2006 |
| NPK | 4.99 | 5.96 | 10.95 |
| N | 4.8 | 6.62 | 11.42 |
| NP | 4.59 | 6.99 | 11.58 |
| NK | 4.22 | 6.80 | 11.02 |
| P | 4.21 | 6.79 | 11.00 |
| 0-20cm# | CK | 12.40 | 8.41 | 20.81 | 25-yr long-term fertilization site | Tianjin/ cinnamon soil | Jin 2006 |
| N | 13.60 | 8.84 | 22.44 |
| NP | 15.20 | 6.43 | 21.63 |
| NPK | 13.40 | 8.44 | 21.84 |
| N+manure | 20.10 | 6.27 | 26.37 |
| N+straw | 15.50 | 6.48 | 21.98 |
| N+green manure | 12.90 | 5.93 | 18.83 |
| Fallow | 22.90 | 5.52 | 28.42 |
| 0-7.5cm# | farmyard manure | 16.03 | 16.03 | 32.06 | 18-year longterm fertilization | Gansu/ Calcareous irrigation desert soil | Zeng et al. 2008 |
| green manure | 15.10 | 16.40 | 31.50 |
| Straw | 14.43 | 17.02 | 31.45 |
| N | 12.90 | 16.58 | 29.48 |
| Farmyard matue+ green manure | 16.00 | 16.16 | 32.16 |
| Farmyard Manure+ straw | 15.63 | 16.16 | 31.79 |
| Farmyard manure+N | 15.03 | 16.18 | 31.21 |
| green manure +N | 13.40 | 16.08 | 29.48 |
| Straw+N | 13.80 | 16.68 | 30.48 |
| Faryard+Green Manure+N | 15.30 | 16.30 | 31.60 |
| Farmyard manure+N+Straw | 15.66 | 15.74 | 31.40 |
| Farmyard manure+N+Straw+Green manure | 15.36 | 17.10 | 32.46 |
| CK | 12.40 | 17.32 | 29.72 |
| 7.5-15cm# | farmyard manure | 15.13 | 15.95 | 31.08 | 18-year longterm fertilization | Gansu/ Calcareous irrigation desert soil | Zeng et al.,2008 |
| green manure | 13.66 | 16.62 | 30.28 |
| Straw | 13.60 | 17.33 | 30.93 |
| N | 11.96 | 16.63 | 28.59 |
| Farmyard manure+ green manure | 15.43 | 16.24 | 31.67 |
| Farmyard Manure+ straw | 15.30 | 16.15 | 31.45 |
| Farmyard manure+N | 14.46 | 15.97 | 30.43 |
| green manure +N | 12.96 | 16.38 | 29.34 |
| Straw+N | 13.43 | 16.76 | 30.19 |
| Faryard+Green Manure+N | 14.63 | 16.33 | 30.96 |
| Farmyard manure+N+Straw | 15.33 | 15.92 | 31.25 |
| Farmyard manure+N+Straw+Green manure | 15.10 | 17.16 | 32.26 |
| CK | 11.56 | 17.44 | 29.00 |
| 15-30cm# | farmyard manure | 12.83 | 16.68 | 29.51 | 18-year longterm fertilization | Gansu/ Calcareous irrigation desert soil | Zeng et al.,2008 |
| green manure | 13.10 | 16.97 | 30.07 |
| Straw | 11.70 | 17.54 | 29.24 |
| N | 10.56 | 17.14 | 27.70 |
| Farmyard matue+ green manure | 13.23 | 16.68 | 29.91 |
| Farmyard Manure+ straw | 12.26 | 16.66 | 28.92 |
| Farmyard manure+N | 12.23 | 16.60 | 28.83 |
| green manure +N | 11.90 | 16.57 | 28.47 |
| Straw+N | 12.36 | 17.03 | 29.39 |
| Faryard+Green Manure+N | 12.66 | 16.84 | 29.50 |
| Farmyard manure+N+Straw | 12.83 | 16.25 | 29.08 |
| Farmyard manure+N+Straw+Green manure | 12.56 | 17.60 | 30.16 |
| CK | 11.06 | 17.68 | 28.74 |
| 30-50cm# | CK | 9.26 | 20.22 | 29.48 | 18-year longterm fertilization | Gansu/ Calcareous irrigation desert soil | Zeng et al.,2008 |
| farmyard manure | 8.86 | 22.39 | 31.25 |
| green manure | 8.86 | 21.30 | 30.16 |
| Straw | 8.66 | 23.38 | 32.04 |
| N | 9.30 | 21.66 | 30.96 |
| Farmyard matue+ green manure | 9.16 | 20.12 | 29.28 |
| Farmyard Manure+ straw | 8.63 | 20.48 | 29.11 |
| Farmyard manure+N | 8.76 | 20.83 | 29.59 |
| green manure +N | 9.26 | 20.08 | 29.34 |
| Straw+N | 9.26 | 22.78 | 32.04 |
| Farmyard+Green Manure+N | 8.93 | 20.33 | 29.26 |
| Farmyard manure+N+Straw | 9.26 | 21.60 | 30.86 |
| Farmyard manure+N+Straw+Green manure | 8.90 | 21.62 | 30.52 |
| 0-10cm# | CK | 7.87 | 10.07 | 17.94 | 15-yr longterm experiment | Shanxi/ cinnamon soil | Jin 2006 |
| NT-5 | 10.24 | 9.87 | 20.11 |
| NT-7 | 10.44 | 10.21 | 20.65 |
| NT-12 | 10.57 | 10.96 | 21.53 |
| 10-20cm# | CK | 5.75 | 10.30 | 16.05 | 15-yr longterm experiment | Shanxi/ cinnamon soil | Jin 2006 |
| NT-5 | 6.36 | 10.22 | 16.58 |
| NT-7 | 6.55 | 11.14 | 17.69 |
| NT-12 | 6.97 | 11.61 | 18.58 |
| 0-40cm\* | CK | 4.52 | 0.54 | 5.06 | 5-yr longterm experiment | Shaanxi/Earth-cumuli-Orthic Anthrosols | Li 2008 |
| Plastic film covering | 4.32 | 0.59 | 4.91 |
| Straw covering | 4.54 | 0.52 | 5.06 |
| 0-10cm\* | CK | 1.15 | 0.12 | 1.27 | 5-yr longterm experiment | Shaanxi/Earth-cumuli-Orthic Anthrosols | Li 2008 |
| Plastic film covering | 1.13 | 0.13 | 1.26 |
| Straw covering | 1.21 | 0.12 | 1.32 |
| 10-20cm\* | CK | 1.16 | 0.13 | 1.29 |
| Plastic film covering | 1.10 | 0.14 | 1.24 |
| Straw covering | 1.20 | 0.13 | 1.32 |
| 20-30cm\* | CK | 1.15 | 0.14 | 1.29 |  |  |
| Plastic film covering | 1.07 | 0.17 | 1.25 |
| Straw covering | 1.14 | 0.13 | 1.27 |
| 30-40cm\* | CK | 1.06 | 0.15 | 1.21 |  |  |
| Plastic film covering | 1.02 | 0.17 | 1.19 |
| Straw covering | 1.00 | 0.15 | 1.14 |
| 0-30cm# | Farmland(CK) | 17.93 | 0.052 | 17.98 | Paired sampling | Inner mongolia/ chestnut soil | Geng et al., 2008 |
| Grassland | 22.87 | 0.006 | 22.88 |
| 0-30cm# | Grassland enclosure | 15.40 | 0.005 | 15.40 |
| Grassland grazing | 15.67 | 0.005 | 15.67 |
| 0-30cm\* | Farmland(CK) | 3.68 | 0.15 | 3.83 | Paired sampling | Inner mongolia/ chestnut soil | Yang et al.,2007 |
| Forest | 4.23 | 0.14 | 4.37 |
| 0-40cm\* | Farmland(CK) | 1.02 | 0.073 | 1.09 | Paired sampling | Heilongjiang/dark brown forest soil | An et al, 2012a,b |
| Forest | 1.18 | 0.070 | 1.25 |
| 0-20cm\* | Clearcut | 0.77 | 0.062 | 0.83 |
| Forest | 0.94 | 0.056 | 1.00 |
| 0-20cm# | CK(farmland) | 6.69 | 4.13 | 10.82 | 20 year long-term fertilization | Beijing/ Fluvo-aquic soils | Huang et al., 2006 |
| Low NP addition | 7.75 | 3.67 | 11.42 |
| High NP addition | 9.07 | 2.90 | 11.97 |
| Manure | 8.46 | 3.37 | 11.83 |
| Manure +Low NP addition | 8.48 | 3.11 | 11.59 |
| Manure+high NP addition | 9.39 | 2.54 | 11.93 |
| 20-40cm# | CK(farmland) | 6.04 | 4.01 | 10.05 | 20 year long-term fertilization | Beijing/ Fluvo-aquic soils | Huang et al., 2006 |
| Low NP addition | 6.79 | 2.82 | 9.61 |
| High NP addition | 7.66 | 3.20 | 10.86 |
| Manure | 7.49 | 3.52 | 11.01 |
| Manure +Low NP addition | 7.95 | 2.69 | 10.64 |
| Manure+high NP addition | 8.34 | 2.28 | 10.62 |
| 40-70cm# | CK(farmland) | 4.60 | 3.64 | 8.24 | 20 year long-term fertilization | Beijing/ Fluvo-aquic soils | Huang et al., 2006 |
| Low NP addition | 5.22 | 2.35 | 7.57 |
| High NP addition | 5.55 | 3.23 | 8.78 |
| Manure | 5.19 | 3.04 | 8.23 |
| Manure +Low NP addition | 6.02 | 2.50 | 8.52 |
| Manure+high NP addition | 6.51 | 2.58 | 9.09 |
| 70-100cm# | CK(farmland) | 2.36 | 8.51 | 10.87 | 20 year long-term fertilization | Beijing/ Fluvo-aquic soils | Huang et al., 2006 |
| Low NP addition | 3.81 | 4.55 | 8.36 |
| High NP addition | 3.68 | 5.53 | 9.21 |
| Manure | 3.18 | 6.11 | 9.29 |
| Manure +Low NP addition | 3.32 | 5.00 | 8.32 |
| Manure+high NP addition | 3.62 | 6.66 | 10.28 |
| 0-100cm\* | CK(farmland) | 6.80 | 7.90 | 14.70 | 20 year long-term fertilization | Beijing/ Fluvo-aquic soils | Huang et al., 2006 |
| Low NP addition | 8.30 | 5.00 | 13.30 |
| High NP addition | 8.90 | 5.80 | 14.70 |
| Manure | 8.20 | 6.10 | 14.30 |
| Manure +Low NP addition | 8.70 | 5.00 | 13.70 |
| Manure+high NP addition | 9.40 | 5.60 | 15.00 |
| Mean for # | CK# | 8.99 | 12.64 | 21.64 |  |  |  |
| treatment# | 10.64 | 11.83 | 22.46 |  |  |  |
| Mean for \* | CK\* | 3.20 | 2.33 | 5.53 |  |  |  |
| treatment\* | 3.75 | 1.70 | 5.41 |  |  |  |

\*: unit is kg m-2; #: unit g kg-1.

Table S2 Separated measurements of SIC changing rate in variable sites and soils of China

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Sites and soil | SIC Changing rate (g m-2 yr-1) |  | data number | references |
| Dissolution rate | | | | | |
| 1 | Yichun,heilongjiang | -52.08 |  | 3 | Yuan, 1994 |
| 2 | Changchun, Jilin | -28.08 |  | 3 | Yuan, 1994 |
| 3 | Beijing | -2.04 |  | 3 | Yuan, 1994 |
| 4 | jinan, Henan | -1.08 |  | 3 | Yuan, 1994 |
| 5 | Binxian，shaanxi | -2.40 |  | 3 | Yuan, 1994 |
| 6 | Geermu, Xinjiang | -0.84 |  | 3 | Yuan, 1994 |
| 7 | Guilin, Guangxi | -70.80 |  | 3 | Yuan, 1994 |
| 8 | Guanzhou, Guangdong | -5.52 |  | 3 | Yuan, 1994 |
| 9 | Liuzhou，guangXi | -11.40 |  | 3 | Yuan, 1994 |
| 10 | Huanjiang, Guanxi | -28.32 |  | 3 | Yuan, 1994 |
| 11 | Guiyang, Guizhou | -12.24 |  | 3 | Yuan, 1994 |
| 12 | Kunming, Yunan | -32.16 |  | 3 | Yuan, 1994 |
| 13 | Cumulanthorsol in Shaanxi | -3.90 |  | 2 | Pan, 1999 |
| 14 | Isohumisol in Gansu-Shaanxi | -1.20 |  | 3 | Pan, 1999 |
| 15 | Calcic aridsol in Lanzou | -0.18 |  | 2 | Pan, 1999 |
| 16 | Alfisol in Shandong | -0.42 |  | 2 | Pan, 1999 |
| 17 | Fluvent in Shanghai | -6.00 |  | 2 | Pan, 1999 |
| 18 | Paleosol,Luoshuan of Shaanxi | -1.27 |  | 14 | Pan, 1999 |
| 19 | Yellow soil in Shanxi | -0.30 |  | 3 | Duan et al., 1999 |
| 20 | black earth in NE China | -0.10 |  | 1 | Wang et al.,2012 |
| 21 | laboratory simulation | -358.85 |  | 6 | Liu et al.,1998 |
| 22 | Grassland across China | -26.8 |  | 1 | Yang et al., 2012 |
| Secondary deposition rate | | | | | |
| 23 | Yellow soil in Upland of Shanxi | 5.49 |  | 6 | Duan et al., 1999 |
| 24 | Yellow soil in Upland of Shanxi | 2.56 |  | 6 | Duan et al., 1999 |
| 25 | Yellow soil in Upland of Shanxi | 6.55 |  | 6 | Duan et al., 1999 |
| 26 | Paleosol,Luochuan Shaanxi | 0.20 |  | 4 | Sheng& Wang, 1989 |
| 27 | Yellow soil,Luochuan Shaanxi | 0.29 |  | 4 | Sheng& Wang, 1989 |
| 28 | Alfisol,Loess Plateau | 3.84 |  | 1 | Pan, 1999 |
| 29 | Alfisol,Shandong | 0.24 |  | 1 | Pan, 1999 |
| 30 | Vertisol,Gaomi,Shandong | 1.44 |  | 1 | Pan, 1999 |
| 31 | Cambisol,North Anhui | 0.48 |  | 1 | Pan, 1999 |
| 32 | Cryoaridisol,North Tibet | 1.20 |  | 1 | Pan, 1999 |
| 33 | Aridisol,Qinghai | 4.56 |  | 2 | Pan, 1999 |
| 34 | Aridisol,Gansu | 1.80 |  | 2 | Pan, 1999 |
| 35 | Aridisol,Lanzhou | 1.50 |  | 2 | Pan, 1999 |
| 36 | Isohumisol,Inner Mogonia | 0.84 |  | 2 | Pan, 1999 |

Table S3 Separated measurements of SOC changing rate during variable fertilizing treatment in China

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Layer | Treatment | Duration (yr) | SOC(g kg-1) | changing rate(mg kg-1 yr-1) | bulk density (g cm-3) | SOC storage( g m-2) | changing rate (g m-2 yr-1) | References |
| 0-20cm | CK | 9 | 13.5 |  | 1.29 | 3484.6 |  | Suo & Han,2009 |
| N | 9 | 13.92 | 46.7 | 1.29 | 3585.8 | 11.2 |
| NP | 9 | 14.66 | 128.9 | 1.28 | 3763.0 | 30.9 |
| NPK | 9 | 15.3 | 200.0 | 1.28 | 3915.3 | 47.9 |
| 0-20cm | CK | 11 | 13.99 |  | 1.29 | 3602.6 |  | Song et al.,2007 |
| N | 11 | 14.34 | 31.8 | 1.29 | 3686.5 | 7.6 |
| NP | 11 | 14.9 | 82.7 | 1.28 | 3820.2 | 19.8 |
| NK | 11 | 14.35 | 32.7 | 1.29 | 3688.9 | 7.8 |
| PK | 11 | 14.4 | 37.3 | 1.29 | 3700.9 | 8.9 |
| NPK | 11 | 14.46 | 42.7 | 1.28 | 3715.3 | 10.2 |
| NPK+M | 11 | 15.67 | 152.7 | 1.28 | 4002.8 | 36.4 |
| NPK+straw | 11 | 15.75 | 160.0 | 1.28 | 4021.7 | 38.1 |
| 20-40cm | CK | 8 | 11.31 |  | 1.30 | 2950.2 |  | Song et al.,2007 |
| N | 8 | 10.61 | -87.5 | 1.31 | 2776.9 | -21.7 |
| NP | 8 | 10.21 | -137.5 | 1.31 | 2677.4 | -34.1 |
| NK | 8 | 11.61 | 37.5 | 1.30 | 3024.1 | 9.2 |
| PK | 8 | 12.09 | 97.5 | 1.30 | 3141.9 | 24.0 |
| NPK | 8 | 11.64 | 41.3 | 1.30 | 3031.5 | 10.2 |
| NPK+M | 8 | 11.37 | 7.5 | 1.30 | 2965.0 | 1.8 |
| NPK+straw | 8 | 11.84 | 66.2 | 1.30 | 3080.6 | 16.3 |
| 0-20cm | CK | 20 | 7.5 |  | 1.33 | 1992.5 |  | Zhang et al., 2006 |
| N-90 | 20 | 7.9 | 20 | 1.33 | 2094.7 | 5.1 |
| N-180 | 20 | 8.1 | 30 | 1.32 | 2145.7 | 7.7 |
| P-39 | 20 | 7.25 | -12.5 | 1.33 | 1928.4 | -3.2 |
| P-79 | 20 | 7.4 | -5 | 1.33 | 1966.8 | -1.3 |
| 0-20cm | CK | 5 | 13.6 |  | 1.21 | 3291.2 |  | Wang & Wang, 2006 |
| mature addition | 5 | 14.09 | 98 | 1.09 | 3071.6 | -43.9 |
| Straw mature addition | 5 | 14.27 | 134 | 1.07 | 3053.8 | -47.5 |
| harvest at 20cm | 5 | 13.79 | 38 | 1.18 | 3254.4 | -7.4 |
| Straw mulch | 5 | 13.89 | 58 | 1.12 | 3111.4 | -36.0 |
| straw mulch and plough | 5 | 13.97 | 74 | 1.16 | 3241.0 | -10.0 |
| Tillage layer | CK | 25 | 9.86 |  | 1.31 | 2590.1 |  | Sun & Suo,2011 |
| N | 25 | 9.45 | -16.21 | 1.32 | 2488.3 | -4.1 |
| NP | 25 | 9.40 | -18.53 | 1.32 | 2473.7 | -4.7 |
| NPK | 25 | 8.99 | -34.77 | 1.32 | 2371.5 | -8.7 |
| M | 25 | 12.45 | 103.74 | 1.30 | 3230.7 | 25.6 |
| MN | 25 | 13.07 | 128.34 | 1.29 | 3380.2 | 31.6 |
| MNP | 25 | 13.17 | 132.28 | 1.29 | 3404.1 | 32.6 |
| MNPK | 25 | 12.82 | 118.36 | 1.29 | 3319.7 | 29.2 |
| Tillage layer | CK | 14 | 4.02 |  | 1.35 | 1085.7 |  | Meng et al., 2005 |
| OM | 14 | 9.08 | 361.71 | 1.32 | 2394.7 | 93.5 |
| 0.5OM | 14 | 7.28 | 233.07 | 1.33 | 1936.6 | 60.8 |
| NP | 14 | 5.55 | 109.29 | 1.34 | 1488.0 | 28.7 |
| NPK | 14 | 5.55 | 109.29 | 1.34 | 1488.0 | 28.7 |
| PK | 14 | 4.90 | 63.14 | 1.34 | 1318.9 | 16.7 |
| NK | 14 | 4.29 | 19.57 | 1.35 | 1158.2 | 5.2 |
| 0-20cm | CK | 14 | 3.77 |  | 1.58 | 1191.3 |  | Yin & Cai,2006 |
| NPK | 14 | 5.28 | 107.9 | 1.52 | 1605.1 | 29.6 |
| 0.5OM | 14 | 6.63 | 204.3 | 1.46 | 1936.0 | 53.2 |
| OM | 14 | 8.1 | 309.3 | 1.42 | 2300.4 | 79.2 |
| 0-15cm | CK (NF) | 18 | 16.18 |  | 1.10 | 2669.7 |  | Pan et al.,2006 |
| CF | 18 | 17.43 | 69.4 | 1.18 | 3085.1 | 23.1 |
| CF+Manure | 18 | 19.38 | 177.8 | 1.18 | 3430.3 | 42.3 |
| CF+Straw | 18 | 19.24 | 170 | 1.14 | 3290.0 | 34.5 |
| 0-20cm | CK | 25 | 8.8 |  | 1.32 | 2312.8 |  | Li,2007 |
| CF | 25 | 9.3 | 20.8 | 1.32 | 2444.6 | 5.3 |
| low straw+CF+ fallow | 25 | 9.6 | 34.8 | 1.31 | 2532.0 | 8.8 |
| low straw+CF | 25 | 10.0 | 48.7 | 1.31 | 2619.1 | 12.3 |
| low straw+CF | 25 | 10.8 | 83.5 | 1.31 | 2835.7 | 20.9 |
| Middle straw +CF | 25 | 11.7 | 116.0 | 1.30 | 3036.1 | 28.9 |
| High straw+CF | 25 | 13.1 | 171.6 | 1.29 | 3376.0 | 42.5 |
| 0-20cm | CK | 11 | 21.8 |  | 1.24 | 5409.4 |  | Zhang et al.,2003 |
| Straw return | 11 | 22.4 | 58.0 | 1.24 | 5550.6 | 12.8 |
| NP addition | 11 | 20.8 | -89.7 | 1.25 | 5189.3 | -20.0 |
| Organic manure | 11 | 23.3 | 131.8 | 1.23 | 5729.1 | 29.1 |
| Tillage layer | CK | 5 | 19.6 |  | 1.25 | 4913.2 |  | Zhu et al.,1995 |
| NPK | 5 | 20.9 | 260 | 1.25 | 5206.5 | 58.7 |
| MNPK | 5 | 23.4 | 760 | 1.23 | 5759.7 | 169.3 |
| 0-20cm | Ck (N0) | 14 | 6.4 |  | - | - |  | Guo et al., 2009 |
| N45 | 14 | 6.9 | 38.9 | - | - | 5.7 |
| N90 | 14 | 7.1 | 48.0 | - | - | 7.8 |
| N135 | 14 | 7.2 | 57.1 | - | - | 9.0 |
| N180 | 14 | 7.2 | 59.9 | - | - | 9.6 |
| 0-20cm | CK | 4 | 6.47 |  | 1.33 | 1727.4 |  | Ma et al.,1994 |
| N | 4 | 8.22 | 437.5 | 1.32 | 2176.2 | 112.2 |
| NPM | 4 | 9.51 | 760 | 1.32 | 2502.2 | 193.7 |
| NPMStraw | 4 | 9.37 | 725 | 1.32 | 2467.0 | 184.9 |
| NPStraw | 4 | 9.21 | 685 | 1.32 | 2426.7 | 174.8 |
| 0-20cm | old growth forest | 25 | Linear regression analysis | | |  | 61.0 | Zhou et al. 2006 |
| 0-10cm | Returned farmland to forests | 50 | Paired sampling | | |  | 17.3 | Wei et al., 2012 |
| 0-20cm | return farmland to plantation forests | chronosequence and long-term plot, Linear regression analysis | | | | | 94.8 | Wang et al. 2011 |
| chronosequence and long-term plot, Linear regression analysis | | | | | 65.8 |
| chronosequence and long-term plot, Linear regression analysis | | | | | 139.4 |
| chronosequence and long-term plot, Linear regression analysis | | | | | 124.2 |
| 0-80cm | return farmland to plantation forests | chronosequence and long-term plot, Linear regression analysis | | | | | 81.2 | Wang et al., 2011 |
| chronosequence and long-term plot, Linear regression analysis | | | | | 42.2 |
| chronosequence and long-term plot, Linear regression analysis | | | | | 227.3 |
| chronosequence and long-term plot, Linear regression analysis | | | | | 154.8 |