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ابزارهای پژوهش



سرویس ترجمه تخصصی



کارگاه‌های آموزشی



بلاگ مرکز اطلاعات علمی



سامانه ویراستاری STES



فیلم‌های آموزشی

سامانه ویراستاری (ویرایش متون فارسی، انگلیسی، عربی)

۴۰ درصد تخفیف نوروزی ویژه کارگاه‌ها و فیلم‌های آموزشی



روش تحقیق کمی

روش تحقیق کمی



آموزش مهارت‌های کاربردی در تدوین و چاپ مقالات ISI

آموزش مهارت‌های کاربردی در تدوین و چاپ مقالات ISI



آموزش نرم افزار Word برای پژوهشگران

آموزش نرم افزار Word برای پژوهشگران

() , ()

()

*

(// : // :)

()

OC : μm

(Eladia et al., 2005)

(Neider and Benbi,

(Lal et al.,

CO₂

.2008)

.1999; Six et al., 2002; Lufafa et al., 2008)

.(FAO, 2004; Bernoux et al., 2006)

.(Bohn et al., 2001)

(Brady and Weil, 1999; Merino

et al., 2004)

.(Marschner et al., 2008)

.(Evah et al, 2007)

(Izaurrealde and

.Cerri, 2006)

()

ahaidari@ut.ac.ir :

*

()

)

(Six et al., (

.(Samavat et al., 2008)

.(Meunier, 2005)

(Daniel and Gregorich, 2006; Neider and Benbi, 2008; Gregorich et al, 2006)

Xeric- Aridic-Thermic
.(Dezvareh, 2008)

Mesic

DEM

Arc-

GIS

.(Leifeld et al., 2005)

.(Christensen, 2001)

x x

(2002) USDA

(2006)

.(Elliott and Cambardella, 1991)

(Elliott and Cambardella, 1991; Daniel and
.(Gregorich, 2006)

pH

.(Christensen, 2001)

.(Page et al., 1986; Page et al., 1982)

(Kanze and Dixon, 1986)

NaOH .(Kendra et al., 2004)

.(Schnitzer, 1982)

CO₂

μ μ / mm mm
/ / (F2) / (F1)
/ (F4) / / (F3)

.(Elliott and Cambardella, 1991)

HCl

(F5)

(Tan, 2003)

GLM SAS

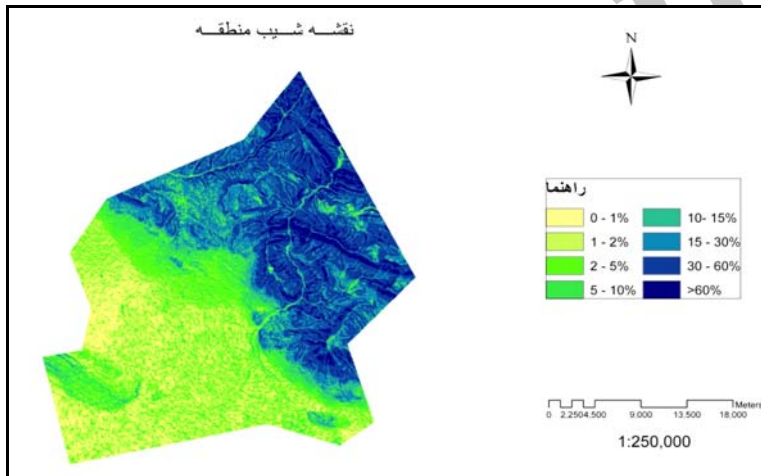
/ NaOH

DEM

RPM

()

pH



P2 P1 C/N

()

(Soil Survey Staff,

()

2010)

P6 P2

F4

(/) F5

/

/

()

SAS

F3

F5

()

()

p < /

F1 F2

F5

F1

F5

C/N

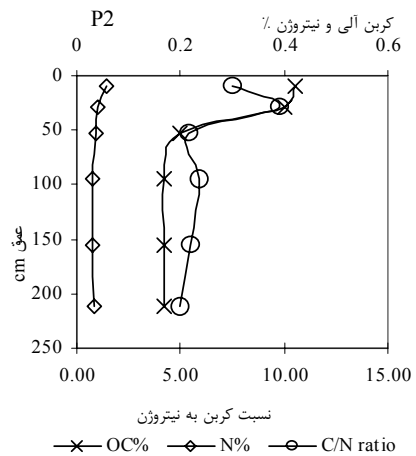
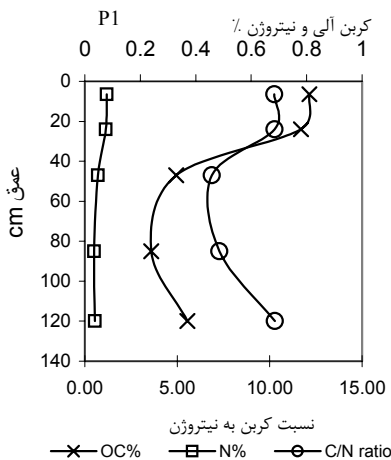
F5

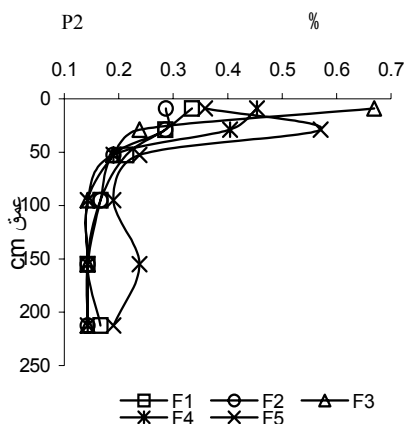
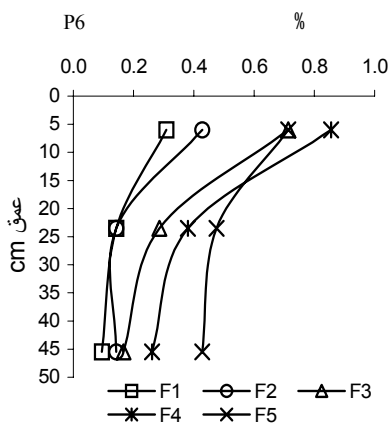
()

()

()

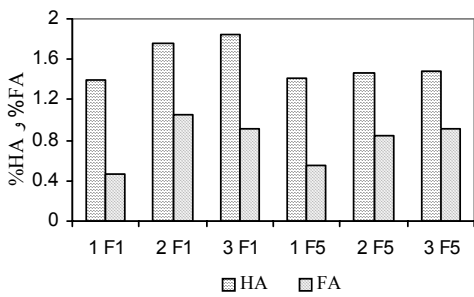
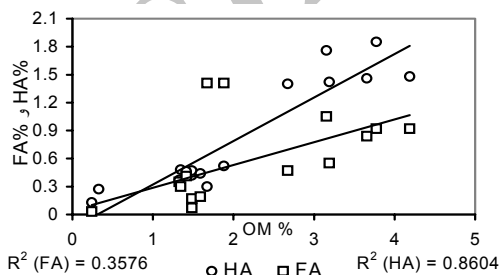
| (cm) | SAR | meq/l | | | | | | % | | | | | EC | pH | | | | | |
|------------------------------------------------------------------|--------|-----------------|----------------|------------------|------------------|-------------------------------|-------------------------------|-----------------|-------------------------------|-------------------------------------------|---------|--------|----|----|-------------------|----|------|------|------|
| | | Na ⁺ | K ⁺ | Ca ²⁺ | Mg ²⁺ | HCO ₃ ⁻ | CO ₃ ²⁻ | Cl ⁻ | SO ₄ ²⁻ | CEC cmol _c kg ⁻¹ | OC % | N % | | | CaCO ₃ | SP | Clay | Sand | Silt |
| Fine-loamy, mixed, active, thermic, Fluventic Haplocambids | | | | | | | | | | | | | | | | | | | |
| P1 | Ap1 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |
| | Bw/Ap2 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |
| | Bw | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |
| | 2C | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| | 3Bkb | > | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |
| Fine, mixed, active, thermic, Typic Natrargids | | | | | | | | | | | | | | | | | | | |
| P2 | Ap | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| | Bw | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| | Btkn1 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | C | / |
| | Btkn2 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | CL | / |
| | Btkyn | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | C | / |
| | Btyn | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | C | / |
| Sandy-skeletal, thermic, Lithic Haplocalcids | | | | | | | | | | | | | | | | | | | |
| P3 | A | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | LS | / |
| | Bk | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| Loamy, mixed, active, mesic, Lithic Xerorthents | | | | | | | | | | | | | | | | | | | |
| P4 | A | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |
| | BC | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| Loamy-skeletal, mixed, superactive, thermic, Typic Torriorthents | | | | | | | | | | | | | | | | | | | |
| P5 | A | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| | CB | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| Loamy-skeletal, smectitic, thermic, Typic Haplocambids | | | | | | | | | | | | | | | | | | | |
| P6 | A | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | SL | / |
| | Bw | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |
| | CB | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | L | / |





P6 P2

| | | | | |
|----|---|---|---|---|
| F1 | > | > | > | > |
| F3 | > | > | > | > |
| F5 | > | > | > | > |
| F1 | > | > | > | > |
| F3 | > | > | > | > |
| F5 | > | > | > | > |
| F3 | | | > | |
| F5 | | | > | |
| F1 | > | > | > | > |
| F3 | > | > | > | > |
| F5 | > | > | > | > |



F5 F1

Xeric-Mesic Aridic-Thermic

| | | |
|---|----|----|
| / | c | F1 |
| / | c | F2 |
| / | bc | F3 |
| / | ba | F4 |
| / | a | F5 |

(FAO, 2004)

(Bohn et al., 2001) / kgCm⁻²

() (Lufafa et al., 2008)

(Jastrow and Miller, 1998)

P4

Xeric Mesic

P6 (Six et al., 2002)

Typic Haplocambids

F5

F4

(Brady and Weil,

1999; Lorenz and Lal, 2006; Janzen et al, 2006; Marschner et al., 2008)

F5

F4

(Batjes,

Typic Natrargids

P2

.2008)

دلیل

F5

نتیجه کربن آلی تحت الارض علیرغم کم بودن نقش مهمی در

نگهداری طولانی (Bohn et

.al., 2001)

P1 (3Bkb)

P2

(P1)

F5

P1

C/N

() P2

(2008) Flessa

(Huang et al, 2008)

()

(Flessa et al., 2008)

(Bayer et al., 2001)

(Oades and

.Waters, 1991)

(Six et al.,*2000)

(Six et al., 2000)

()

()

) F4 F5

(

C/N

F5

()

ونيز

()

.(Neider and Benbi, 2008)

FA:

F5

HA:

F1

DEM:

C/N:

SAR:

CEC:

REFERENCES

- Batjes, N. H. (2008). Mapping soil carbon stocks of central Africa using SOTER. *Geoderma*. 146, 58-65.
- Bayer, C., L Martin-Neto, Mielniczuk, Pillon, J. C. N. and Sangoi, L.(2001). Changes in Soil Organic Matter Fractions under Subtropical No-Till Cropping Systems. *Soil Science Society of America*, 65,1473-1478.

- Bernoux, M., Feller, C., Cerri, C.C., Eschenbrenner, V. and Cerri, C.E.P. (2006). Soil Carbon Sequestration. In: Roose, E. J., Lal, R., Feller, Ch., Barthes, B., Stewart B. A. (Eds), *Soil erosion and carbon dynamic*. Chapter 2. CRC Press. USA.
- Bohn, H. L., McNeal, B. L. and O'Conner, G., (2001). *Soil chemistry*. Chapter 6, P: 155-171.

- Brady, N. C., and Weil, R. R. (1999). The Nature and Properties of Soil. (pp.446-490).
- Christensen, B. T., (2001). Physical fractionation of soil and structural and functional complexity in organic matter turnover. *European Journal of Soil Science*, 53, 345-353.
- Dezvareh, N. (2008). *Land use database of Karaj county using remote sensing*. MSc. Dissertation, University of Tehran. In Farsi.
- Eladia, M., PeOa-MÉndez, Havel, J. Patočka, J. (2005). Humic substances ñ compounds of still unknown structure: applications in agriculture, industry, environment, and biomedicine. *Journal of Applied Biomedicine*, 3, 13-24.
- Elliott, E.T. and Cambardella, C. A. (1991). Physical separation of soil organic matter. *Agriculture, Ecosystems and Environment*, 34, 407 – 419.
- Evah W. Murage et al, 2007. Dynamics and Turnover of Soil Organic Matter as Affected by Tillage. *Soil Science Society of America* (Vol.71), (n.4).
- FAO (food and agriculture organization of the united nation) (2004). Carbon sequestration in dryland soil. World Soil Resources Reports, No, 102.
- Flessa, H., Amelung, W., Helfrich, M., Wiesenberg, G. L. B., Gleixner, G., Brodowski, S., Rethemeyer, J., Kramer, C. and Grootes, P. M., (2008). Storage and stability of organic matter and fossil carbon in a Luvisol and Phaeozem with continuous maize cropping: A synthesis. *Journal of Plant Nutrition and Soil Science*, 171, 36-51.
- Gregorich, E. G., Beare, M. H., McKim, U. F., Skjemstad, J. O., (2006). Chemical and Biological Characteristics of Physically Uncomplexed Organic Matter. *Soil Science Society of America*, 70, 975-985.
- Huang, Q., Huang, P. M. and Violante, A. (2008). *Soil Mineral-Microbe-Organic Interactions (Theories and Applications)*. Springer.
- Izaurrealde, R. C. and Cerri, C. C. (2006). Organic Matter Management. *Encyclopedia of Soil Science* DOI: 10.1081/E-ESS-120002260.
- Janzen, H. H., B. H., Ellert and D. W., Anderson, (2006). *Organic matter in the landscape*. Chapter 248. In: Lal, R., *Encyclopedia of Soil Science*, Second Edition.
- Jastrow, J. D. and Miller, R. M. (1998) *Soil aggregate stabilization and carbon sequestration: feedbacks through organomineral associations*. In: Lal R, Kimble JM, Follett RF, and Stewart BA (Eds.) *Soil Processes and the Carbon Cycle*. Boca Raton, FL: CRC Press. P: 207–223.
- Kanze, G. W. and Dixon, J. B. (1986). Pretreatment for mineralogical analysis. *Soil Science Society of America*, 677. *Method of Soil Analysis. Part 1. Physical and Mineralogical Methods*.
- Kendra, K. McLaughlan and Hobbie, S. E. (2004). Comparison of Labile Soil Organic Matter Fractionation Techniques. *Soil Science Society of America*, 68, 1616–1625.
- Lal, R., Hassan, H.M., Dumanski, J. (1999). *Desertification control to sequester C and mitigate the greenhouse effect*. In: St. Michaels (Ed.), *Workshop on Carbon Sequestration and Desertification*, Pacific Northwest National Lab., St. Michaels. Batelle Press, P: 83–149.
- Leifeld J, Ingrid kogel – knabner, (2005). Soil organic matter fractions as early indicators for carbon stock changes under different land-use. *Geoderma*, 124, 143-155.
- Lorenz, K. and Lal, R. (2006). Subsoil Organic Carbon Pool. *Encyclopedia of Soil Science* DOI: 10.1081/E-ESS-120041451.
- Lufafa, A., Bolte, J., Wright, D. Khouma, M., Diedhiou, I., Dick, R., Kizito, P., Dossa, F. E. and Nollera, J. S. (2008). Regional carbon stocks and dynamics in native woody shrub communities of Senegal's Peanut Basin. *Agriculture, Ecosystems and Environment*, 128, 1–11.
- Olk, D. C. and Gregorich, E. G., (2006). Overview of the symposium proceedings, "Meaningful pools in determining soil carbon and nitrogen dynamics. *Soil Science Society of America*, 70, 967–974.
- Black, C.A., (1982). *Methods of soil analysis. Part 2*. American Society of Agronomy, Inc. Soil Science Society of America Inc.
- Page, A. L, (1986). *Methods of soil analysis. Part 1*. American Society of Agronomy, Inc. Soil Science Society of America Inc.
- Marschner, B., Brodowski, S., Dreves, A., Gleixner, G., Gude, A., Grootes, P. M., Hamer, U., Heim, A. J. G., Kaiser, R. K., Kalbitz, K., Kramer, C., Leinweber, P., Rethemeyer, J., Schäffer, A., Schmidt, M., Schwark, L. and Wiesenberg, G. B. (2008). How relevant is recalcitrance for the stabilization of organic matter in soils? *Journal of Plant Nutrition and Soil Science*, 171, 91–110.
- Merino, A., Perez-Batallon, P., Macias, F., (2004). Responses of soil organic matter and greenhouse gas fluxes to soil management and land use change in a humid temperate region of southern Europe. *Soil Biology & Biochemistry*, 36, 917-925.
- Meunier, A. (2005). *Clays*. Springer, Berlin, 472 pp. University OF Poitiers.
- Neider, R., Benbi, D.K. (2008). *Carbon and Nitrogen in the Terrestrial Environment*. Springer Science. Business Media B. V.
- Oades, J. M. and Waters, A.G. (1991). Aggregate hierarchy in soils. *Australian journal of soil research*, 29, 815–828.
- Tan, K. H., (2003). *Humic Matter in Soil and the Environment, Principles and Controversies*. University of Georgia Athens, Georgia, U.S.A.
- Samavat, S., Pazoki, A. and Ladan moghadam, A. (2008). *Applied basics of organic matter in agriculture*. Azad University Press. Garmsar.
- Schnitzer, M. (1982). *Organic Matter Characterization*. SSSA, 677S. In: A. L., Page, (Ed.), *Method of soil analysis, part 2. Chemical and Microbiological Properties*.
- Six, J., Paustian, K., Elliott, E.T. and Combrink, C. (2000). Soil Structure and Organic Matter: I. Distribution of Aggregate-Size Classes and Aggregate-Associated Carbon. *Soil Science Society of America*, 64, 681–689.
- Six, J., Elliott, E. T. and Paustian, K. (2000). Soil Structure and Soil Organic Matter: II. A Normalized Stability Index and the Effect of Mineralogy. *Soil Science Society of America*, 64, 1042–1049.
- Six, J., Callewaert, P., Lenders, S., De Gryze, S., Morris, S. J., Gregorich, E. G. and Paul, E. A. (2002). Measuring and understanding carbon storage in afforested soils by physical fractionation. Division S-7: Forest & Range Soils. *Soil Science Society of America*, 66, 1981-1987.
- Soil survey staff, (2006). *Keys to soil taxonomy*. United States Department of Agriculture Natural Resources Conservation Service.

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