

## CH<sub>4</sub> CO<sub>2</sub>

\*

تاریخ دریافت: ۸۶/۷/۱۵ تاریخ پذیرش: ۸۷/۳/۲۵

### چکیده

CH<sub>4</sub> CO<sub>2</sub>

CH<sub>4</sub>

CH<sub>4</sub>

CH<sub>4</sub>

CO<sub>2</sub>

CH<sub>4</sub> CO<sub>2</sub>

N<sub>2</sub>O CH<sub>4</sub> CO<sub>2</sub>

(Tan, et al., 2005)

CO<sub>2</sub>

( )

/ ppm

ppm

CO<sub>2</sub>

---

CO<sub>2</sub> (Houghton, et al., 1996)

CO<sub>2</sub>

( )

(Rees, et al., 2005)

CO<sub>2</sub>

(Borken, et al., 1999)

(N<sub>2</sub>O)

(Lal and

Kimble, 1995)

CH<sub>4</sub> CO<sub>2</sub>

/ ppm /

( )

(Neue, et al., 1995)

(Bouwman,1990)

48° 28' 59"

48° 27' 50"

31° 14' 1"

31° 13' 45"

(IRRI, 2002)

(Ehhalt and Smith, 1978)

( )

( )

( )

CH<sub>4</sub> CO<sub>2</sub>

ppm

UNICAM

Excel

SPSS 10

Duncan

Wang, 2003)

(Grahammer et Beyer, 1991; Gupta and Singh, 1987;  
 al., (1991;

( ) .( ) %

( )

.( )

:( )

(

**	b -۰,۱۰۶۴	a ۲,۲۲۲۱	CH <sub>4</sub> (mg/m <sup>2</sup> /day)
**	b ۰,۵۱۰۰	a ۰,۹۹۹۶	CO <sub>2</sub> (g/m <sup>2</sup> /day)

\*\* معنی دار در سطح ۱٪

CO<sub>2</sub> // ( ) // //

( ) :

	//	//	//	//	//	//	//	//	
**	/	/	/	/	/	/	/	/	CH <sub>4</sub>
	c	c	bc	bc	a	ab	bc	bc	
**	/	/	/	/	/	/	/	/	CO <sub>2</sub>
	a	ab	b	a	e	d	d	c	

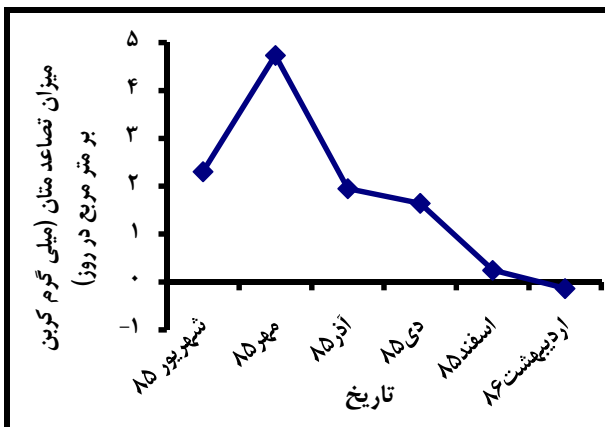
\*\* معنی دار در سطح ۱٪

( )

(Jiang, et al., 2006)

( )

Wassmann Pathak .



( ) :

( )

(Xu, et ; Ueki, et al., 1997 ; Jiang, et al., 2006)

al., 2002

( )

CO<sub>2</sub>  
CO<sub>2</sub>

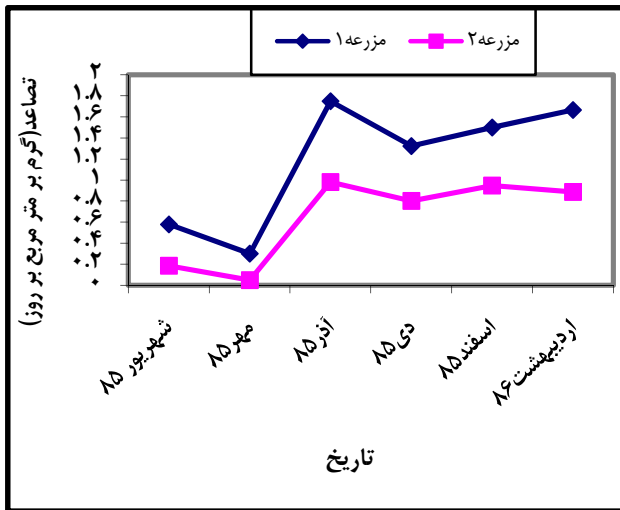
( )

( )

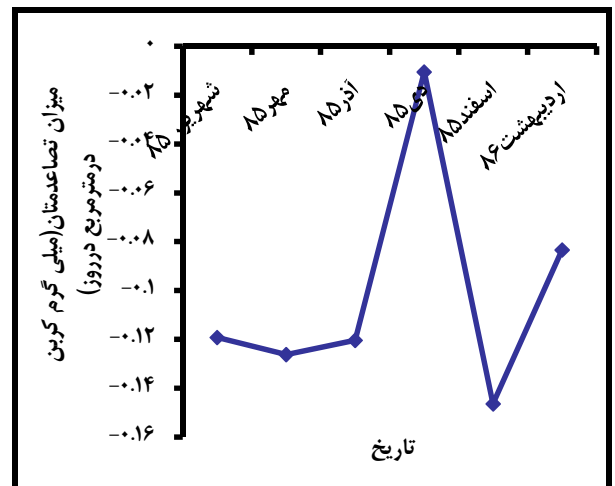
)

(

CO<sub>2</sub>



CO<sub>2</sub> : ( )



( )

( )

( )

CO<sub>2</sub>

---

CO<sub>2</sub>

CO<sub>2</sub>

CO<sub>2</sub>

CO<sub>2</sub>

Dugas & Mielnick

1998

Davidson

2000

CO<sub>2</sub>

همچنین Lafleur (2005) در بررسی اکوسیستم‌های گیاهی،  
رابطه مستقیمی بین تصاعد CO<sub>2</sub> و دمای محیط یافته و این  
موضوع را مربوط به تأثیر دما بر تنفس اکوسیستم دانسته است.

CO<sub>2</sub>

1- Static Chamber

2- Gas Chromatograph

( )

.DNDC

Borken, W., et al.1999. A Climate Change Scenario for Carbon Dioxide and Dissolved Organic Carbon Fluxes from a Temperate Forest Soil: Drought and Rewetting Effects. Soil Science Society of American Journal. 63:1848–1855.

Bouwman, A.F. 1990. Soil and The Greenhouse Effect: Proceeding Of International Conference on Soil and the Greenhouse Effect. Wily, Wiltshire.,UK.

Davidson, E.A., E., Belk, R.D., Boone. 1998. Soil water content and temperature as independent or confounded factors controlling soil respiration in a temperate mixed hardwood forest. *Global Change Biology*. 4: 217–227.

Ehhalt, D.H. and U., Schmidt .1978. Sources and sinks of atmospheric methane pageoph. 116:452-464.

Houghton, J.T. et al .1996. *Climate Change 1995. The Science of Climate Change*. Cambridge University Press, Cambridge, UK.

IRRI (International Rice Research Institute), Riceweb. 2002. <http://www.riceweb.org/>.

Jiang, C., et al. 2006. Methane and Nitrous Oxide Emissions from Three Paddy Rice Based Cultivation Systems in Southwest China. *Advances in Atmospheric Sciences*, 23: 415–424.

Lafleur, P.M., et al. 2005. Ecosystem Respiration in a Cool Temperate Bog Depends on Peat Temperature but not Water Table, *Ecosystems* 8: 619–629.

Lal, R. and J., Kimble. 1995. Soils and Global Change, in: *Advances in Soil Science*. CRC Press, Boca Raton FL, USA, pp. 1–2.

Mielnick, P.C., W.A., Dugas. 2000. Soil CO<sub>2</sub> Flux in a Tallgrass Prairie. *Soil Biology & Biochemistry* 32: 221-228.

Neue, H.U., R., Wassmann, and R.S., Lantin. 1995. Mitigation Options for Methane Emissions from Rice Fields. pp. 136-144, In, Peng S., K. Ingram, H. U. Neue, L. Ziska, Eds. *Climate change and rice*. Springer-Verlag, Berlin.

Pathak, h., Li, C., and Wassmann, R. 2005. Greenhouse Gas Emissions from Indian Rice Fields: Calibration and Upscaling Using the DNDC Model. *Biogeosciences Discussions*, 2: 77–102.

Rees, R.M., et al. 2005. The Role of Plants and Land Management in Sequestering Soil Carbon in Temperate arable and Grassland Ecosystems. *Soil Science Society of American Journal*, 56(1):125-132.

Tan, Z., Lal, R. 2005. Carbon Sequestration Potential Estimates with Changes in Land Use and Tillage Practice in Ohio, USA. *Agriculture, Ecosystems and Environment*, 126:113-121.

---

Ueki,A., et al.1997. Survival of Methanogens in Air-dried Paddy Field Soil and their Heat Tolerance. *Water Science and Technology*, 36: 517–522.

Xu,H., Z.C.,Cai, and Z.J.,Jia.2002. Effect of Soil Water Contents in the Non-rice Growth Season on CH<sub>4</sub> Emissionduring the Following Rice-Growing Period. *Nutrient Cycling in Agroecosystems*, 64: 101–110.