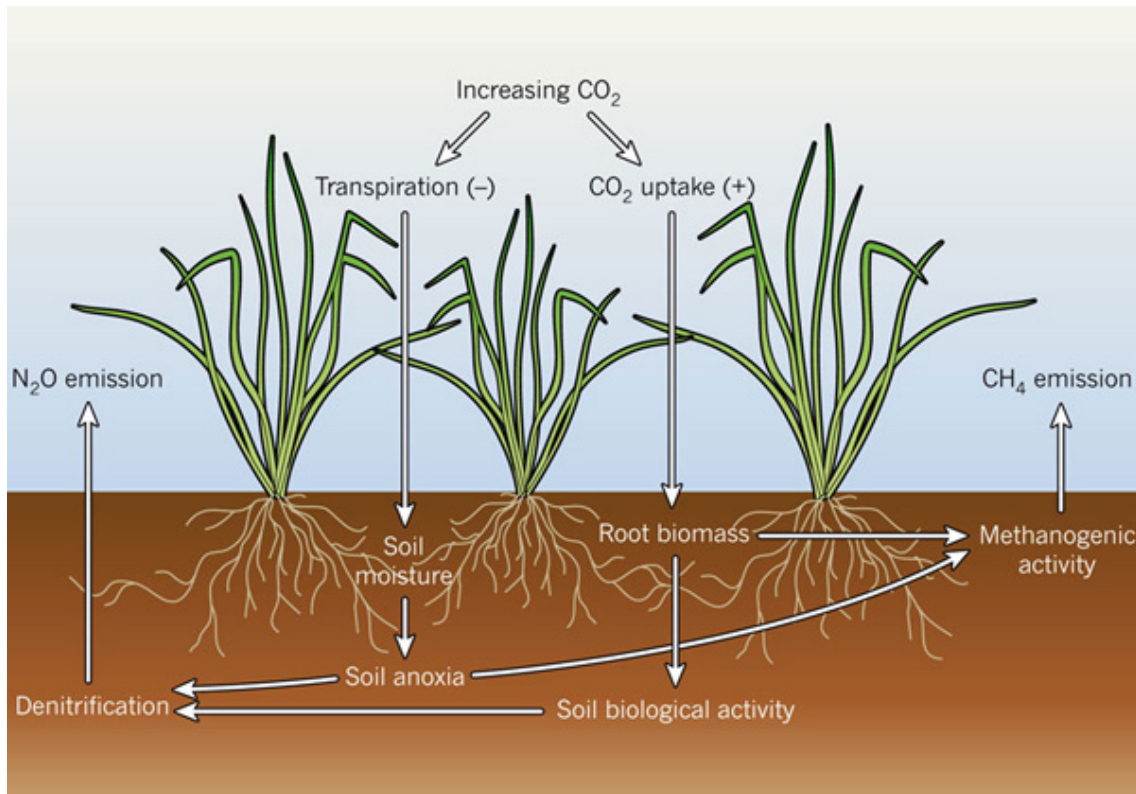


ĐžĐ°ĐμĐ°Đ½Đ¾Đ»Đ¾Đ³.Ñ€Ñƒ - Đ°Đ°ÑƒÑ†Đ½Đ¾-Đ¿Đ¾Đ¿ÑƒĐ»Ñ•Ñ€Đ½Ñ†Đ¹ Đ¿Đ¾Ñ€Ñ,Đ°Đ» Đ¾ Ñ•Ñ,Đ,Ñ...Đ,Ñ•Ñ...

Đ°Đ¾Đ°Ñ, Đ—ĐμĐ¾Đ»Đ, Đ, Đ°ĐμĐ±Đ°

ĐŸĐ¾Đ²Ñ(Ñ°ĐμĐ½Đ, Đμ Đ°Đ¾Đ½Ñ†ĐμĐ½Ñ,Ñ€Đ°Ñ†Đ, Đ, CO2 Đ²
Đ°Ñ,Đ¾Đ¾Ñ•Ñ, ĐμÑ€Đμ Ñ•Ñ,Đ, Đ¾ÑƒĐ»Đ, Ñ€ÑƒĐμÑ, Đ²Ñ†Đ μĐ»ĐμĐ½Đ, Đμ
Đ, Đ. Đ¿Đ¾Ñ†Đ²Ñ(Đ°Ñ€ÑƒĐ³Đ, Ñ... Đ¿Đ°Ñ€Đ½Đ, Đ°Đ¾Đ²Ñ(Ñ... Đ³Đ°Đ·Đ¾Đ²
Đ Đ°Đ·Đ μĐ» : ĐœĐμÑ,ĐμĐ¾Ñ€Đ¾Đ»Đ¾Đ³Đ, Ñ•
ĐžĐ¿ÑƒĐ±Đ»Đ, Đ°Đ¾Đ²Đ°Đ½Đ¾ Flanker [10.08.2011]

ĐŸĐ¾ Đ¾ĐμÑ€Đμ Ñ,Đ¾Đ³Đ¾ Đ°Đ°Đ° Đ² Đ°Ñ,Đ¾Đ¾Ñ•Ñ, ĐμÑ€Đμ Ñ€Đ°Ñ•Ñ,ĐμÑ,
Ñ•Đ¾Đ μÑ€Đ°Đ½Đ, Đμ ÑƒĐ³Đ»ĐμĐ°Đ, Ñ•Đ»Đ¾Đ¾ Đ³Đ°Đ·Đ° (CO2),
ÑƒĐ²ĐμĐ»Đ, Ñ†Đ, Đ²Đ°ĐμÑ, Ñ•Ñ• Đ, Ñ•Đ²Ñ•Đ·Ñ†Đ²Đ°Đ½Đ, Đμ ĐμĐ³Đ¾
Ñ€Đ°Ñ•Ñ, ĐμĐ½Đ, Ñ•Đ¾Đ, Đ¿Đ¾Đ¾Ñ, Đ²ĐμÑ, Ñ•Ñ, Đ²ĐμĐ½Đ½Đ¾, Ñ•Đ°Đ¾Ñ€Đ¾Ñ•Ñ, Ñ€Đ
Đ°Đ°»Ñ€Đ½ĐμĐ¹Ñ°ĐμĐ³Đ¾ Đ¿Ñ€Đ, Ñ€Đ¾Ñ•Ñ, Đ° CO Ñ•Đ½Đ, Đ°Đ°ĐμÑ, Ñ•Ñ•, Đ°
Đ¿Đ°Ñ€Đ½Đ, Đ°Đ¾Đ²Ñ†Đ¹ Ñ•Ñ, Ñ, ĐμĐ°Ñ, Đ¾Ñ•Đ»Đ°Đ±Đ»Ñ•ĐμÑ, Ñ•Ñ•. ĐžĐ°Đ½Đ°Đ°Đ¾
Ñ€Đ¾Ñ•Ñ, Ñ•Đ¾Đ μÑ€Đ°Đ½Đ, Ñ• CO2 Đ² Đ°Ñ, Đ¾Đ¾Ñ•Ñ, ĐμÑ€Đμ Đ¿Ñ€Đ, Đ²Đ¾Đ°Đ, Ñ,
Ñ, Đ°Đ°Đ°Đμ Đ° ÑƒÑ•Đ, ĐμĐ½Đ½Đ¾Đ¾Ñƒ Đ²Ñ†Đ μĐ»ĐμĐ½Đ, Ñž Đ, Đ. Đ¿Đ¾Ñ†Đ²Ñ(Đ°Ñ€ÑƒĐ³Đ, Ñ... Đ¿Đ°Ñ€Đ½Đ, Đ°Đ¾Đ²Ñ(Ñ... Đ³Đ°Đ·Đ¾Đ²: Đ·Đ°Đ°Ñ•Đ, Đ°Đ¾Ñ, Đ° (N2O) Đ,
Đ¾ĐμÑ, Đ°Đ½Đ° (CH4). Đ¾Đ¾Ñ, Ñ• Đ¿Đ¾Ñ•Ñ, ÑƒĐ¿Đ°ÑžÑ, Ñ•Ñ, Đ, Đ³Đ°Đ·Ñ† Đ² Đ¾Ñ†ĐμĐ½Ñ€Đ
Đ½ĐμĐ±Đ¾Đ»Ñ€Ñ†Đ, Ñ... (Đ¾Ñ, Đ½Đ¾Ñ•Đ, Ñ, ĐμĐ»Ñ€Đ½Đ¾ CO2)
Đ°Đ¾Đ»Đ, Ñ†ĐμÑ•Ñ, Đ²Đ°Ñ..., Đ, Ñ... Đ¿Đ°Ñ€Đ½Đ, Đ°Đ¾Đ²Ñ†Đ¹ Ñ•Ñ, Ñ, ĐμĐ°Ñ, Đ²
Ñ€Đ°Ñ•Ñ†ĐμÑ, Đμ Đ½Đ° Đ¾Đ¾Đ»ĐμĐ°ÑƒĐ»Ñƒ Đ³Đ°Đ·Đ° Đ¾Đ¾Ñ€Đ°Đ·Đ¾ Đ±Đ¾Đ»ĐμĐμ
Ñ•Đ, Đ»Ñ€Đ½Ñ†Đ¹, Ñ†ĐμĐ¾ CO2. Đ°Đ½Đ°Đ»Đ, Đ. Đ¾Đ¿ÑƒĐ±Đ»Đ, Đ°Đ¾Đ²Đ°Đ½Đ½Ñ(Ñ...
Đ°Đ°Đ½Đ½Ñ(Ñ... Đ¿Đ¾Đ°Đ°Đ·Ñ†Đ²Đ°ĐμÑ, Ñ†Ñ, Đ¾ Đ²Ñ†Đ μĐ»ĐμĐ½Đ, Đμ N2O Đ, CH4 Đ²
Đ¾Ñ, Đ²ĐμÑ, Đ½Đ° ÑƒĐ²ĐμĐ»Đ, Ñ†ĐμĐ½Đ, Đμ Ñ•Đ¾Đ μÑ€Đ°Đ½Đ, Ñ• Đ²
Đ²Đ¾Đ·Đ°ÑƒÑ...Đμ CO2 Ñ•Đ¾Đ·Đ°ĐμÑ, Đ¿Đ°Ñ€Đ½Đ, Đ°Đ¾Đ²Ñ†Đ¹ Ñ•Ñ, Ñ, ĐμĐ°Ñ,
Ñ€Đ°Đ²Đ½Đ¾Ñ•Đ, Đ»Ñ€Đ½Ñ†Đ¹ ĐμĐ°ĐμĐ³Đ¾Đ°Đ¾Đ¾Ñƒ Đ°Đ¾Đ±Đ°Đ²»ĐμĐ½Đ, Ñž
Đ¿Ñ€Đ, Đ¾ĐμÑ€Đ½Đ¾ Đ¾Đ, Đ»Ñ€Đ°Ñ, Ñ, Đ¾Đ½Đ½ CO.
Đ ĐμĐ³ÑƒĐ»Đ, Ñ€ÑƒÑžÑ%ĐμĐμ Đ²Đ¾Đ·Đ°Đ μĐ¹Ñ•Ñ, Đ²Đ, Đμ
Ñ€Đ°Ñ•Ñ, Đ, Ñ, ĐμĐ»Ñ€Đ½Đ¾Ñ•Ñ, Đ, Đ½Đ° Đ¿Đ°Ñ€Đ½Đ, Đ°Đ¾Đ²Ñ†Đ¹ Ñ•Ñ, Ñ, ĐμĐ°Ñ, Đ¿Ñ€Đ,
Ñ•Ñ, Đ¾Đ¾Ñ•Ñ•Đ½Đ, Đ°Đ°ĐμÑ, Ñ•Ñ• Đ¿Ñ€Đ, Đ¾ĐμÑ€Đ½Đ¾ Đ½Đ° 17%.



Д Д, №. 1.

Д' Д³¼Ñ, Д²ДµÑ, Д½Д° Ñ€Д³¼Ñ•Ñ, Ñ•Д³¼Д' ДµÑ€Д¶Д°Д½Д, Ñ• Д² Д²Д³¼Д-Д'ÑfÑ... Дµ ДiДž

2

Ñ•Д, Д²Д½Д³¼Ñ•Ñ, Ñ€Ñ Ñ, Ñ€Д°Д½Ñ•Дž, Ñ€Ñ•Ñ†Д, Д, (Д, Ñ•Дž Д°Ñ€ДµД½Д, Ñ• Д²Д³¼Д'Ñ < Д»Д, Ñ•Ñ, Ñ€Ñ•Д¼Д, Д½Д³¼ Ñ•Д²Ñ•Д.

2

ÑfÑ, Ñ•Ñ, Д²Д, Дµ Д°Д, Ñ•Д»Д³¼Ñ€Д³¼Д'Д° Д² Дž Д³¼Ñ†Д²Дµ Ñ€Д°Д-Д²Д, Д²Д°ÑžÑ, Ñ•Ñ• Д±Д°Д°Ñ, ДµÑ€Д, Д°Д³¼Ñ, Д³¼Ñ€Ñ•Дµ Д

2

О). Дi Д'Ñ€ÑfД³¼Д¹ Ñ•Ñ, Д³¼Ñ€Д³¼Д½Ñ, Д² ÑfÑ•Д»Д³¼Д²Д, Ñ•Ñ... Д³¼Д±Д, Д»Д, Ñ• ДiДž

2

, Д°Ñ..., Д³Д'Дµ Д½ДµÑ, Д°Д, Ñ•Д»Д³¼Ñ€Д³¼Д'Д°, ДžÑ€ДµД, Д¼ÑfÑ%ДµÑ•Ñ, Д²Д³¼ Дž Д³¼Д»ÑfÑ†Д°ÑžÑ, Д±Д°Д°Ñ, ДµÑ€Д, Д

2

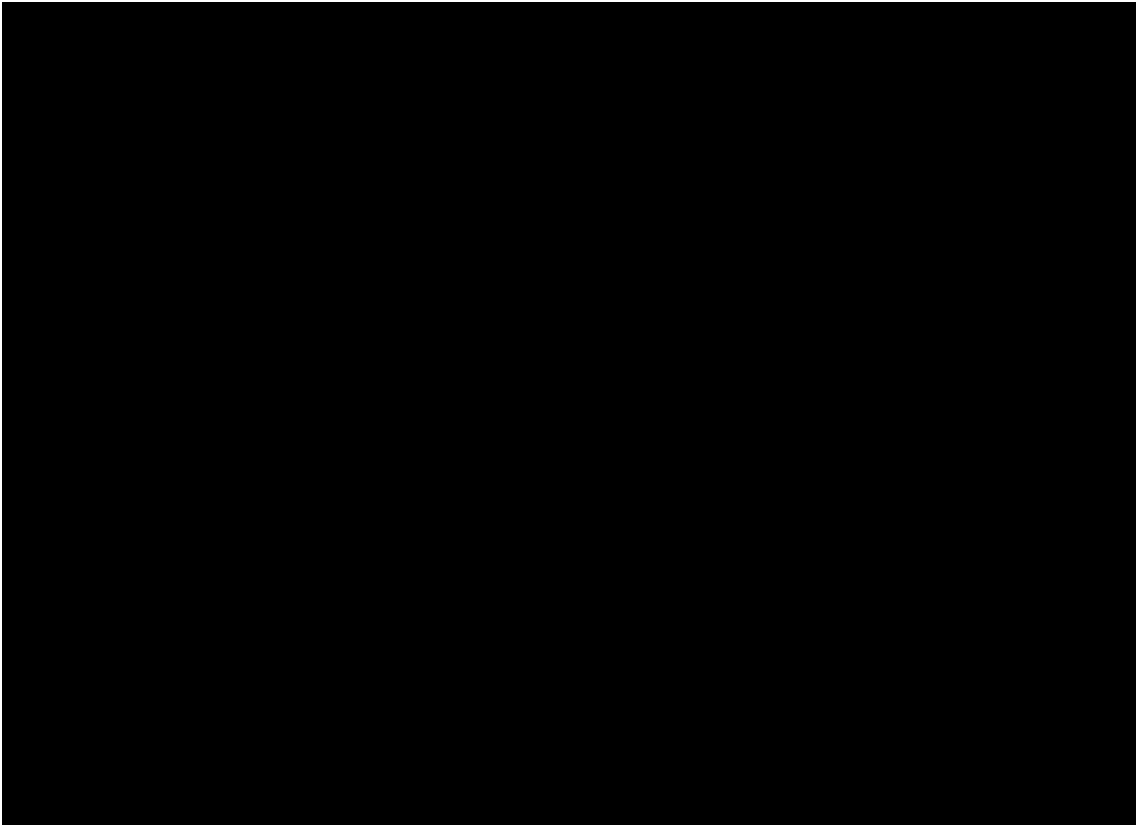
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Nature.

2011. V. 475. P. 177–178

ДiД³¼Д' ДµÑ€Д¶Д°Д½Д, Дµ Д'Д, Д³¼Д°Ñ•Д, Д'Д° ÑfД³Д»ДµÑ€Д³¼Д'Д°

(Ñfð³»ðµð°ð, Ñ•ð»ð³¼ð³¼ ð³ð°ð-ð°) ð² ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€ðµ ð—ðµð¼ð»ð, ð½ð°
ð¿Ñ€ð³¼Ñ,Ñ•ð¶ðµð½ð,ð, ð²Ñ•ðµð¹ ðµðµ ð,Ñ•Ñ,ð³¼Ñ€ð,ð, ð½ðµ ð³¼Ñ,ð»ð,Ñ‡ð°ð»ð³¼Ñ•Ñ€
ð¿ð³¼Ñ•Ñ,ð³¼Ñ•ð½Ñ•Ñ,ð²ð³¼ð¼. ð‡Ñ•ð³¼ð±ðµð½ð½ð³¼ ð¿ð³¼ð Ñ€ð³¼ð±ð½ð³¼
ð,ð-ð¼ðµð½ðµð½ð,Ñ• ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,ð, CO2 ð¿ð¿Ñ€ð³¼Ñ•ð»ðµð¶ðµð½Ñ‹ ð-ð°
ð¿ð³¼Ñ•ð»ðµð ð½ð,ðµ 850 Ñ,Ñ•Ñ•. ð»ðµÑ,, ð ð»Ñ• ð°ð³¼Ñ,ð³¼Ñ€Ñ‹Ñ... ðµÑ•Ñ,Ñ€
ð°ð°ð½ð½Ñ‹ðµ ð°ð½ð°ð»ð,ð-ð° ð¿Ñfð-Ñ‹Ñ€Ñ€ð°ð³¼ð² ð²ð³¼ð-ð ÑfÑ...ð°,
Ñ•ð³¼Ñ...Ñ€ð°ð½ð,ð²Ñ‹ð,Ñ...Ñ•Ñ• ð² Ñ,ð³¼ð»Ñ%ðµ ð°ð½Ñ,ð°Ñ€ð°Ñ,ð,Ñ‡ðµÑ•ð°ð³¼ð³¼
ð»Ñ€ð°ð (Ñ•ð¼.: ð°ð½Ñ,ð°Ñ€ð°Ñ,ð,Ñ‡ðµÑ•ð°ð,ð¹ ð»ðµð´ ð¿ð³¼ð²ðµð´ð°ð» ð¼
Ñ•ð³¼ð ðµÑ€ð¶ð°ð½ð,ð, ð¼ðµÑ,ð°ð½ð° ð, CO2 ð² ð°Ñ,ð¼ð³¼Ñ•Ñ,ðµÑ€ðµ ð—ðµð¼ð»ð,
ð-ð° ð¿ð³¼Ñ•ð»ðµð ð½ð,ðµ 800 Ñ,Ñ‹Ñ•Ñ•Ñ‡ ð»ðµÑ,). ð°ð° ð¿ð¿Ñ€ð³¼Ñ,Ñ•ð¶ðµð½ð,ð,
ð²Ñ•ðµð³¼ Ñ•Ñ,ð³¼ð³¼ ð²Ñ€ðµð¼ðµð½ð, ð½ðµ ð±Ñ‹ð»ð¼, ð³¼ð ð½ð°ð°ð³¼,
ð¿ðµÑ€ð,ð³¼ð°°, ð² Ñ,ðµÑ‡ðµð½ð,ðµ ð°ð³¼Ñ,ð³¼Ñ€ð³¼ð³¼ Ñ•ð³¼ð ðµÑ€ð¶ð°ð½ð,ðµ CO
2 Ñ€ð³¼Ñ•ð»ð¼ ð±Ñ‹ Ñ•Ñ,ð³¼ð»Ñ€ ð±Ñ‹Ñ•Ñ,Ñ€ð³¼, ð°ð°ð° ð² XX ð²ðµð°ðµ ð,
ð² ð½ð°Ñ‡ð°ð»ðµ XXI-ð³¼. ðŸÑ€ð,Ñ‡ð,ð½ð° Ñ,ð°ð°ð³¼ð³¼ ð½ðµð³¼ð±Ñ‹Ñ‡ð½ð³¼
ð±Ñ‹Ñ•Ñ,Ñ€ð³¼ð³¼ Ñ€ð³¼Ñ•Ñ,ð° — Ñ•ð¶ð,ð³ð°ð½ð,ðµ ð,Ñ•ð°ð³¼ð¿ð°ðµð¼ð³¼ð³¼
Ñ,ð³¼ð¿ð»ð,ð²ð°. ð•Ñ•ð»ð, ð ð¼ ð½ð°Ñ‡ð°ð»ð° ð,ð½ð ÑfÑ•Ñ,Ñ€ð,ð°ð»Ñ€ð½ð³¼ð¹
Ñ€ðµð²ð³¼ð»Ñ‡Ñ‡ð,ð, ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,Ñ• CO2 ð² ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€ðµ
ð³¼Ñ‡ðµð½ð,ð²ð°ð»ð°Ñ•Ñ€ ð² 280 ppm (part per million, Ñ‡ð°Ñ•Ñ,ðµð¹ ð½ð°
ð¼ð,ð»ð»ð,ð³¼ð½), Ñ,ð¼ Ñ•ðµð¹Ñ‡ð°Ñ• ð³¼ð½ð° Ñ•ð³¼Ñ•Ñ,ð°ð²ð»Ñ•ðµÑ, 390 ppm. ðš
ð°ð³¼ð½Ñ‡Ñf ð¶ðµ Ñ•Ñ,ð³¼ð»ðµÑ,ð,Ñ• ð³¼ð¶ð,ð´ð°ðµÑ,Ñ•Ñ• 600–700 ppm.
ðŸð³¼Ñ•ð°ð³¼ð»Ñ€ð°Ñf CO2 ð³¼ð±ð»ð°ð°ðµÑ, ð¿ð°Ñ€ð½ð,ð°ð³¼ð²Ñ‹ð¼
Ñ•Ñ,,Ñ,,ðµð°Ñ,ð³¼ð¼, Ñ,ð¼ ðµÑ•Ñ,Ñ€ Ñfð´ðµÑ€ð¶ð,ð²ð°ðµÑ, ð² ð½ð,ð¶ð½ð,Ñ...
Ñ•ð»ð³¼Ñ•Ñ... ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€Ñ‹ Ñ,ðµð¿ð»ð¼, ð°ð³¼Ñ,ð³¼Ñ€ð³¼ðµ ð,ð-ð ÑfÑ‡ð°ðµÑ,
ð½ð°ð³¼Ñ€ðµÑ,ð°Ñ• Ñ•ð³¼ð»ð½Ñ‡ðµð¼ ð-ðµð¼ð»Ñ•, Ñ€ð³¼Ñ•Ñ, ðµð³¼
ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,ð, ð¿Ñ€ð,ð²ð³¼ð ð,Ñ, ð° ð³¼ð±Ñ%ðµð¼Ñf
ð¿ð³¼Ñ,ðµð¿ð»ðµð½ð,Ñ‡. ð‡ð´ð½ð°ð°ð³¼ ð² ð³¼Ñ,ð²ðµÑ, ð½ð° Ñfð²ðµð»ð,Ñ‡ðµð½ð,ðµ
ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,ð, CO2 ð²ð³¼ð-Ñ€ð°Ñ•Ñ,ð°ðµÑ,
ð,ð½Ñ,ðµð½Ñ•ð,ð²ð½ð³¼Ñ•Ñ,Ñ€ Ñ,ð³¼Ñ,ð³¼Ñ•ð,ð½Ñ,ðµð-ð Ñ€ð°Ñ•Ñ,ðµð½ð,ð¹, ð°
Ñ•ð»ðµð ð³¼ð²ð°Ñ,ðµð»Ñ€ð½ð³¼, Ñ•ð²Ñ•ð-Ñ‹ð²ð°ðµÑ,Ñ•Ñ•
ð´ð³¼ð¿ð³¼ð»ð½ð,Ñ,ðµð»Ñ€ð½ð³¼ðµ ð°ð³¼ð»ð,Ñ‡ðµÑ•Ñ,ð²ð³¼ Ñ•Ñ,ð³¼ð³¼ ð³ð°ð-ð°.
ð´ð»ð°ð³¼ð´ð°Ñ€Ñ• ð½ð°ð»ð,Ñ‡ð,Ñ‡ Ñ,ð°ð°ð³¼ð¹ ð³¼ð±Ñ€ð°Ñ,ð½ð³¼ð¹ Ñ•ð²Ñ•ð-ð,
Ñ•ð³¼ð ðµÑ€ð¶ð°ð½ð,ðµ ð¿ð‡ ð² ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€ðµ ð,
ð³¼ð¿ð¿Ñ€ðµð ðµð»Ñ•ðµð¼Ñ‹ð¹ Ñ•Ñ,ð,ð¼ ð³ð°ð-ð³¼ð¼ ð¿ð°Ñ€ð½ð,ð°ð³¼ð²Ñ‹ð¹
Ñ•Ñ,,Ñ,,ðµð°Ñ, Ñ€ð°Ñ•Ñ,ÑfÑ, ð½ðµ Ñ,ð°ð° ð±Ñ‹Ñ•Ñ,Ñ€ð³¼, ð°ð°ð° Ñ•Ñ,ð³¼ ð±Ñ‹ð»ð¼ ð±Ñ‹‹ ð²
ð³¼Ñ,Ñ•ÑfÑ,Ñ•Ñ,ð²ðµ ð-ð°ð²ð,Ñ•ð,ð¼ð³¼Ñ•Ñ,ð, ð,ð½Ñ,ðµð½Ñ•ð,ð²ð½ð³¼Ñ•Ñ,ð,
Ñ,,ð³¼Ñ,ð³¼Ñ•ð,ð½Ñ,ðµð-ð° ð³¼Ñ, ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,ð, CO2. ð€ð²Ñ‹,
ð¿ð³¼ð¼ð,ð¼ð³¼ ð¼ðµÑ...ð°ð½ð,ð-ð¼ð°, Ñ•ð ðµÑ€ð¶ð,ð²ð°Ñ‡Ñ%ðµð³¼ Ñ€ð³¼Ñ•Ñ, CO
2 ð² ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€ðµ, ð¿ð°Ñ€ð°ð»ð»ðµð»Ñ€ð½ð³¼ ðµð¼Ñf ð´ðµð¹Ñ•Ñ,ð²ÑfðµÑ,
ð¼ðµÑ...ð°ð½ð,ð-ð¼, ÑfÑ•ð,ð»ð,ð²ð°Ñ‡Ñ%ð,ð¹ ð¿ð°Ñ€ð½ð,ð°ð³¼ð²Ñ‹ð¹ Ñ•Ñ,,Ñ,,ðµð°Ñ,,
ðµð»ð»ð¼ ð² Ñ,ð³¼ð¼, Ñ‡Ñ,ð¼ Ñfð²ðµð»ð,Ñ‡ðµð½ð,ðµ Ñ•ð³¼ð ðµÑ€ð¶ð°ð½ð,Ñ• CO2 ð²
ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€ðµ Ñ•Ñ,ð,ð¼Ñfð»ð,Ñ€ÑfðµÑ, Ñ•ð¼ð,Ñ•Ñ•ð,Ñ‡ (ð²Ñ‹ð´ðµð»ðµð½ð,ðµ)
ð,ð-ð¿ð³¼Ñ‡ð²Ñ‹ ð´Ñ€Ñfð³ð,Ñ... ð¿ð°Ñ€ð½ð,ð°ð³¼ð²Ñ‹Ñ... ð³ð°ð-ð³¼ð², ð°
ð,ð¼ðµð½ð½ð³¼ ð-ð°ð°ð,Ñ•ð, ð°ð-ð³¼Ñ,ð° ð, ð¼ðµÑ,ð°ð½ð° — N2O ð, CH4.
ð‡ð³¼Ñ,Ñ• ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,ð, ð,Ñ... ð² ð°Ñ,ð¼ð³¼Ñ•Ñ,,ðµÑ€ðµ ð½ð°
ð¿ð³¼Ñ€Ñ•ð°ð, ð½ð,ð¶ðµ ð°ð³¼ð½Ñ‡ðµð½Ñ,Ñ€ð°Ñ‡ð,ð, CO2,
Ñ•ð³¼ð-ð´ð°ð²ð°ðµð¼Ñ‹ð¹ ð,ð¼ð, ð¿ð°Ñ€ð½ð,ð°ð³¼ð²Ñ‹ð¹ Ñ•Ñ,,Ñ,,ðµð°Ñ, ð²
Ñ€ð°Ñ•Ñ‡ðµÑ,ðµ ð½ð° ð¼ð³¼ð»ðµðÑfð»Ñf ð³ð°ð-ð° Ñ•ÑfÑ%ðµÑ•Ñ,ð²ðµð½ð½ð³¼
ð±ð³¼ð»Ñ€Ñ•ðµ: ð´ð»Ñ• CH4 ð² 25 Ñ€ð°ð-, ð´ð»Ñ• N2O — ð² 298 Ñ€ð°ð-.
ð‡ð±Ñ€ð°ð-ð³¼ð²ð°ð½ð,ðµ ð´ð°ð½ð½Ñ‹Ñ... ð³ð°ð-ð³¼ð² ð² ð¿ð³¼Ñ‡ð²ðµ ð,



Ճ Ժ, Ն•. 2.

Ճ₁Ն, Ճ_μՃ₂ Ճ_{3/4}Ճ⁰Ճ₃ Ն•Ճ»Ճ_μՃ^{1/2}Ճ₃ Ն• Ճ°Ճ·Ճ^{3/4}Ն, Ճ° (Ճ^{3/4}Ն, NH
4

+

Ճ^{1/3} NO
3

–

) Ճ₃Ճ»Ճ₃ Ճ_μՃ^{3/4} Ճ²Ճ^{3/4}Ն•Ն•Ն•Ճ°Ճ^{1/2}Ճ^{3/4}Ճ²Ճ»Ճ_μՃ^{1/2}Ճ₃ Ն• (Ճ^{3/4}Ն, NO
3

–

Ճ^{1/3} N
2

ՆՃՆ, Ճ°Ն, Ն• Ն•Ճ_μՃ°Ճ°Ն†Ճ₃Ճ¹, Ճ₂Ն•Ճ^{3/4}Ճ²Ճ^{3/4}Ճ¹Ճ₃Ն•Ն•... Ճ^{1/2}Ճ₃Ն, Ն•Ճ₃Ն, Ճ₃Ն†Ճ₃Ն•Ն•Ն•Ն•Ն•%Ճ₃Ճ^{1/4}Ճ₃ (Nitrifying bacteria, Ճ^{3/4}Ն
Ն, Ճ^{3/4}Ն†Ճ°Ճ°Ճ^{1/4}Ճ₃

) D_3 D' $D_{\mu} D_{1/2} D_3 \tilde{N}, \tilde{N} \in D_3 \tilde{N}, D_3 \tilde{N} \dagger D_3 \tilde{N} \in \tilde{N} f \tilde{N} \tilde{Z} \tilde{N} \% D_3 D_{1/4} D_3$ (Denitrifying bacteria, $D^3/4 D \pm D^3/4 D \cdot D_{1/2} D^{\circ} \tilde{N} \dagger D_{\mu} D_{1/2} \tilde{N}$
 $D_{\zeta} \tilde{N} f D_{1/2} D^{\circ} \tilde{N}, D_3 \tilde{N} \in D^3/4 D_{1/4}$
) $D \pm D^{\circ} D^{\circ} \tilde{N}, D_{\mu} \tilde{N} \in D_3 \tilde{N} \cdot D_{1/4} D_3,$

$D_j D_{\zeta} D \gg D^3/4 \tilde{N}^{\circ} D_{1/2} \tilde{N}^{\circ} D_{\mu} D \gg D_3 D_{1/2} D_3 D_3$
 $\tilde{N} \dots D^3/4 D^{\circ} \tilde{N} \cdot \tilde{N} \% D_3 D_{\mu} D \pm D_{\mu} D \cdot \tilde{N} f \tilde{N} \dagger D^{\circ} \tilde{N} \cdot \tilde{N}, D_3 \tilde{N} \cdot D^3/4 \tilde{N} \in D^3 D^{\circ} D_{1/2} D_3 D \cdot D_{1/4} D^3/4 D^2. D^{\circ} D \cdot \tilde{N} \cdot \tilde{N}, D^{\circ} \tilde{N}, \tilde{N} \in D_3$, Davidson et al. Testing a conceptu
BioScience
. 2000. V. 8. P. 667–680 (PDF)

$D - D^{\circ} D^{\circ} D_3 \tilde{N} \cdot \tilde{N} \in D^{\circ} D \cdot D^3/4 \tilde{N}, D^{\circ} D^2 \tilde{N} \langle D' D_{\mu} D \gg \tilde{N} \cdot D_{\mu} \tilde{N}, \tilde{N} \cdot \tilde{N} \cdot D^2 D^3/4 \tilde{N} \cdot D_{1/2} D^3/4 D^2 D_{1/2} D^3/4 D_{1/4} D^2$
 $D \pm D^3/4 D \gg D_{\mu} D_{\mu} \tilde{N} \cdot \tilde{N} f \tilde{N} \dots D_3 \tilde{N} \dots D_{1/4} D_{\mu} \tilde{N} \cdot \tilde{N}, D^{\circ} \tilde{N} \dots, D_3, D^{\circ} D^3/4 D_{1/2} D_{\mu} \tilde{N} \dagger D_{1/2} D^3/4, \tilde{N}, D^{\circ} D_{1/4}, D^3 D' D_{\mu}$
 $D_{1/4} D_{1/2} D^3/4 D^3 D^3/4 D^{\circ} D \cdot D^3/4 \tilde{N}, D^{\circ} D \cdot D^2 D^3/4 \tilde{N}, D^2 D_3 \tilde{N} \cdot \tilde{N} \dots D^3/4 D' D_{1/2} D^3/4$
 $D \cdot D^{\circ} D \pm D^3/4 D \gg D^3/4 \tilde{N} \dagger D_{\mu} D_{1/2} D_{1/2} \tilde{N} \langle \tilde{N} \dots D_{\zeta} D^3/4 \tilde{N} \dagger D^2 D^{\circ} \tilde{N} \dots D_3 D_{1/2} D^{\circ} D \cdot D^{\circ} D \gg D_3 D^2 D^{\circ} D_{\mu} D_{1/4} \tilde{N} \langle \tilde{N} \dots$
 $D^2 D^3/4 D' D^3/4 D^1 \tilde{N} \in D_3 \tilde{N} \cdot D^3/4 D^2 \tilde{N} \langle \tilde{N} \dots D_{\zeta} D^3/4 D \gg \tilde{N} \cdot \tilde{N} \dots \tilde{N} \dagger D^{\circ} \tilde{N} \% D_{\mu} D^3/4 D \pm \tilde{N} \in D^{\circ} D \cdot \tilde{N} f D_{\mu} \tilde{N}, \tilde{N} \cdot \tilde{N} \cdot$
 $D' \tilde{N} \in \tilde{N} f D^3 D^3/4 D^1 D_{\zeta} D^{\circ} \tilde{N} \in D_{1/2} D_3 D^{\circ} D^3/4 D^2 \tilde{N} \langle D^1 D^3 D^{\circ} D \cdot \text{—} D_{1/4} D_{\mu} \tilde{N}, D^{\circ} D_{1/2}. D - D' D_{\mu} \tilde{N} \cdot \tilde{N} \in D_3$
 $D^3/4 \tilde{N} \cdot D^3/4 D \pm D_{\mu} D_{1/2} D_{1/2} D^3/4 D^2 D^{\circ} D \dagger D_{1/2} D^3/4 \tilde{N}, D^3/4 \tilde{N} \in D_{1/4} D_3 \tilde{N} \in D^3/4 D^2 D^{\circ} D_{1/2} D_3 D_{\mu}$
 $D \pm D_{\mu} \tilde{N} \cdot D^{\circ} D_3 \tilde{N} \cdot D \gg D^3/4 \tilde{N} \in D^3/4 D' D_{1/2} \tilde{N} \langle \tilde{N} \dots D \cdot D^3/4 D_{1/2}, D_{\zeta} D^3/4 \tilde{N} \cdot D^{\circ} D^3/4 D \gg \tilde{N} \in D^{\circ} \tilde{N} f$
 $D^3/4 D \pm \tilde{N} \in D^{\circ} D \cdot \tilde{N} f \tilde{N} \tilde{Z} \tilde{N} \% D_3 D_{\mu} D_{1/4} D_{\mu} \tilde{N}, D^{\circ} D_{1/2} D \pm D^{\circ} D^{\circ} \tilde{N}, D_{\mu} \tilde{N} \in D_3 D_3, \tilde{N}, D^{\circ} D^{\circ}$
 $D_{1/2} D^{\circ} D \cdot \tilde{N} \langle D^2 D^{\circ} D_{\mu} D_{1/4} \tilde{N} \langle D_{\mu} D_{1/4} D_{\mu} \tilde{N}, D^{\circ} D_{1/2} D^3/4 D^3 D_{\mu} D_{1/2} \tilde{N} \langle, \text{—} \tilde{N} \cdot \tilde{N}, \tilde{N} \in D^3/4 D^3 D_3 D_{\mu}$
 $D^{\circ} D_{1/2} D^{\circ} \tilde{N} \cdot \tilde{N} \in D^3/4 D \pm \tilde{N} \langle (\tilde{N} \cdot D_{1/4}. \tilde{N}, D^{\circ} D^{\circ} D \dagger D_{\mu}: D_{\mu} D_{\mu} \tilde{N}, D^{\circ} D_{1/2} D^3/4 D^3 D_{\mu} D_{1/2} D_{\mu} D \cdot).$

