

() , ()

()

*

(// : // :)

(*Bacillus subtilis*)
(*G.etunicatum* *G.mosseae* *Glomus intraradices*)
G.intraradices

Bacillus subtilis
G.intraradices *G.etunicatum*

(Khan *et al.*, 2008)

(Hayman, 1982)

(Akhtar and Siddiqui, 2008)

(Schweiger *et al.*, 2001)

(Bethlenfalvey

(Al-

et al., 1997; Al - Garni, 2006)

.Garni, 2006)

(Aggarwal *et al.*, 2005)

Glomus mosseae (Nicol. and Gerd.) Gerdmann and

Trappe

(Turk *et al.*, 2006)

Groth and Martinson (Sutton and Sheppard, 1976)
(1983)

(Abdel-Fattah, 1997)

/ mg/kg

maryamseafy@yahoo.com :

*

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(Schreiner

.and Bethlanfalvey, 1997)

.(Menge,1982)

(Samarbakhsh *et al.*, 2009)

Bacillus Ehrenberg

subtilis

(Xiao *et al.*, 2008)

(F₂) (F₁) (F₀)
(F₃)

(Vivas *et al.*, 2003)

(M₀)

Glomus etunicatum Beker and Gerdemann (M₂)

G. mosseae (Nicol. and Gerd.)Gerdmann and Trappe(M₁)

G.intraradices Schenk and Smith (M₃)

B.subtilis

G.mosseae

cm

.(Vivas *et al.*, 2003)

B.subtilis

pH= /

%

.(Alavi and Ahonmanesh, 1997)

.(Fotovat, 2007)

J.sheld

(Rejali, 2010)

Fusarium moniliforme

TERI

(Ag⁺)

.(Lubick, 2008)

(F₁)

(Rostami and

Bacillus

(F₃)

Shahsavari, 2009)

(F₂)

subtilis

() L

ppm

(Giovannetti and Mosse, 1980)

/

cm

(*Bradyrhizobium*

japanicum)

()

()

)

()

(

SAS

(Board, 2008)

KOH

Atm

KOH

($P < /$)

($P < /$)

/)

($P < /$)

(

($P < /$)

(Philips and Hyman, 1970)

()

($P < /$)

/ ns	/ ns	/	/ ns	/	/	R
/ **	/ ns	/ ns	/ ns	/ ns	/ ns	M
/ **	/ ns	/ ns	/	/ ns	/ ns	F
/ ns	/	/	/	/	/	×
/	/	/	/	/	/	E
/	/	/	/	/	/	% C.V

: ns ***

(

()

G.intraradices

G.etunicatum *G.mosseae*

G.etunicatum

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G.intraradices

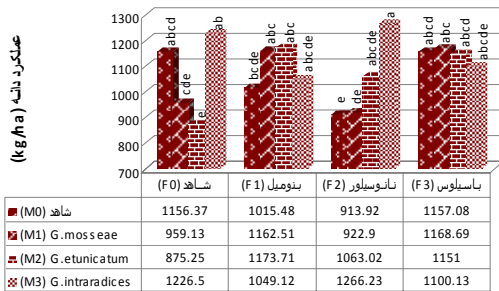
(Johnson

et al., 1992)

G.mosseae

G.intraradices

G.etunicatum *G.mosseae*



(Carr and Hinkly, 1985; Dodd and Jeffries, 1989; Carey *Bacillus subtilis* *et al.*, 1992)

G.etunicatum *G.mosseae*

()

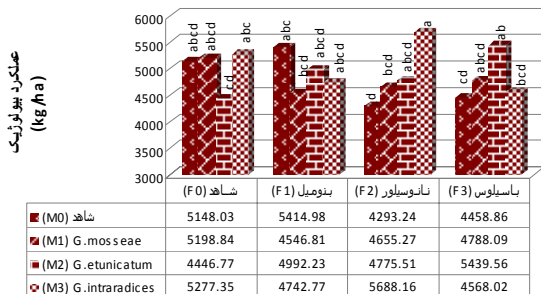
()

G.intraradices

(Vivas

(Mishra, 2004)

et al., 2003)



G.etunicatum

G.mosseae

G.intraradices

G.etunicatum *G.mosseae*

B. subtilis

G.intraradices

(Xiao *et al.*, 2008)

G.etunicatum

()

G.etunicatum *G.mosseae*

G.intraradices

G.intraradices

G.etunicatum *G.mosseae*

Bacillus subtilis

G.etunicatum

G.mosseae

(Schonwitz and Zigler, 1988)

B.subtilis

(Vivas et al., 2003)

G.etunicatum

Bacillus subtilis

G.mosseae

Bertoldi

(2001) Schweiger et al., (1997) et al.,

(Hale and Sanders, 1982)

G.intraradices

G.etunicatum

G.intraradices

G.mosseae

()

G.intraradices

B.subtilis

G.mosseae

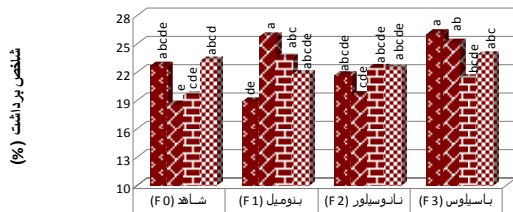
G.etunicatum

G.intraradices

B.subtilis

(

()



()

()

G.mosseae

(/)

() ()

G.etunicatum

Carey *et al.*,)

(1992

Bacillus

G.etunicatum

subtilis

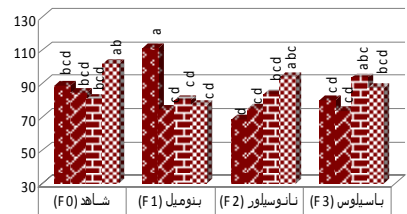
G.mosseae

)

(*B.subtilis*)

G.intraradices

تعداد دانه در کل پوتنه



	(F0) شاهد	(F1) بنومیل	(F2) نانوسپور	(F3) باسیلوس
(M0) شاهد	88.37	111.26	68.3	80.1
(M1) <i>G.mosseae</i>	84.06	74.42	74.72	73.31
(M2) <i>G.etunicatum</i>	80.65	79.94	83.85	93.37
(M3) <i>G.intraradices</i>	101.58	77.39	93.72	87.49

()

G.intraradices

G.mosseae

G.etunicatum

G.etunicatum

G.mosseae

G.intraradices

(2005) Tufenkci *et al.*,

(1995) Subramanian

(M₀)

G.etunicatum

G.mosseae

G.mosseae

G.etunicatum

G.intraradices

/

(Boucher *et al.*, 1999)

G.intraradices

G.intraradices

(Ocampo *et al.*, 1980)

G.intraradices

G.intraradices

pH

()

B.subtilis

(F₀)

G.intraradices

(Samarbakhsh *et*

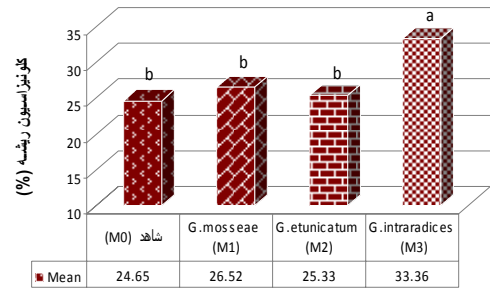
al., 2009 ; Aggarwal *et al.*, 2006)

G.etunicatum *G.mosseae*

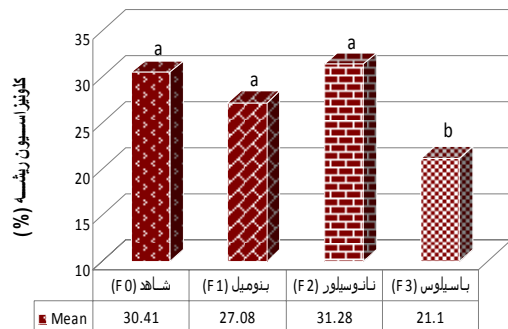
(F₀)

Bacillus

subtilis



G.etunicatum *G.intraradices*



G.etunicatum *G.mosseae*

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