

() ,

*

(/ / : - / / :)

) (%) (%

Fusarium Pythium ultimum Rhizoctonia solani)

(*Verticillium dahliae Alternaria alternata moniliforme*

R. solani

F. moniliforme V. dahliae .

/ /

F. moniliforme

P. ultimum

R. solani

:

Thielaviopsis basicola

Pythium Sclerotium rolfsii Rhizoctonia solani

Fusarium spp. spp.

(Johanson *et al.*, 1970; Brown,

.1979; Mitchell & Royside, 1986; Colyer, 1988)

(Atlas *et al.*,

1978; Moorman, 1989; Hoagland, 1990;

.Moorman & Dowler, 1991)

1. Microorganism

Pythium ultimum (P.u) *Rhizoctonia solani*(R.s)
Verticillium dahliae *Alternaria alternata* (A.a)
) (V.d)

()
 / / (%)
 (%))
 / /)
)
 .(

PDA)

.(Horsfall, 1956)

°C

()

:(Vincent, 1947)

$$IP = \frac{C - T}{C} \times 100$$

:IP

-
4. Bioassay
 5. Trifluralin; Treflan
 6. Ethalfluralin; Sonalan

(Vincent, 1947; Heitefuss, 1988;
 Edwards, 1989; Altman *et al.*, 1990; Ahmad *et al.*, 1995)

)] ()
) ([(

(Humburg, 1989; Rashid & Kenaschuk, 1993)

R. solani

.(El-Khadem *et al.*, 1984; Altman, 1985)

(1985) Altman

Song *et al.* .(Humburg, 1989)

(1993,1995)

(1993) Rashid & Kenaschuk

F. o. xyloporum f.sp *melonis*

(Starratt &

.Lazarovits, 1999)

-
1. Dinitroanilins
 2. *Cucumis melo* L.
 3. Free amino acids

... :

°C () :C
(Johnson, 1992) ()

T: اندازه رشد خطی میسیلیوم قارچ (میلی‌متر) در تیمار
علف‌کش

$$y = \text{ArcSin } \sqrt{X}$$

P. ultimum *R. solani* *F. moniliforme*

(Neubauer & MSTAT-C
Avizahar-Harsheson, 1973)

+)
(1967) Fields (

F. moniliforme

()
% %) (%

F.m
(×)
%

°C

()
°C %

$$\text{()} = \frac{\text{---}}{\text{---}} \times$$

(El-Khadem &
Papavizas, 1984; Johnson, 1992)

P. ultimum

P. ultimum

°C /
F.m
() PDA
/ /

)
(°C)
()
%
)
(

(Song et al., 1993)

(/)

°C

± °C

PDA

:

± °C

$$= \frac{\text{---}}{\text{---}} \times$$

%

(/)

PDA

و شاخص بیماری ریشه و محور زیر لپه¹ طبق روش

(PDA

:

(1971) Kanton

± °C

RHDI=0

R. solani

(Johanson *et al.*, 1970)

RHDI=1

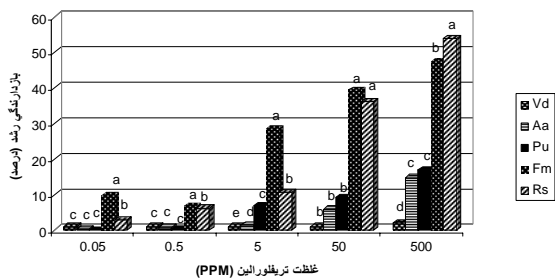
R. solani

RHDI=2

RHDI=3

RHDI=4

RHDI=5



R. solani

Papavizas &

Sneh *et al.*

(1982) Davey

(1966)

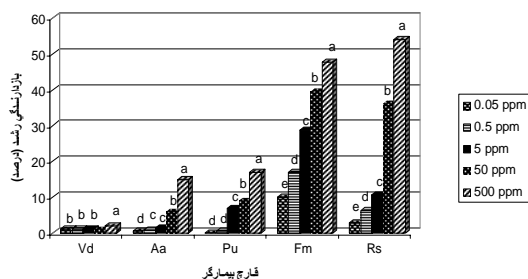
()

(V.d: *Verticillium dahliae*, A.a: *Alternaria alternata*, P.u: *Pythium ultimum*, F.m:*Fusarium moniliforme*, R.s: *Rhizoctonia solani*)

($\alpha = /$)

()

)



R. solani

(:)

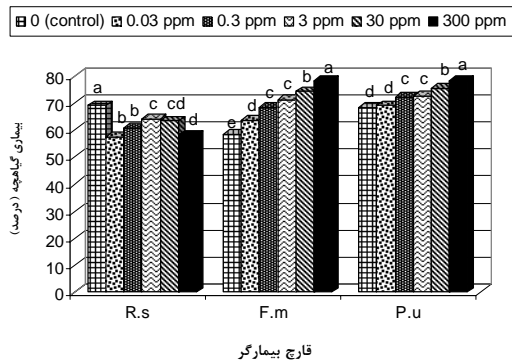
(Neubauere &

.Avizahar-Harsheson, 1973)

()
(0.05-500 ppm)

($\alpha = /$)

1. Root & Hypocotyl Disease Index = RHDI
2. *Beta vulgaris*

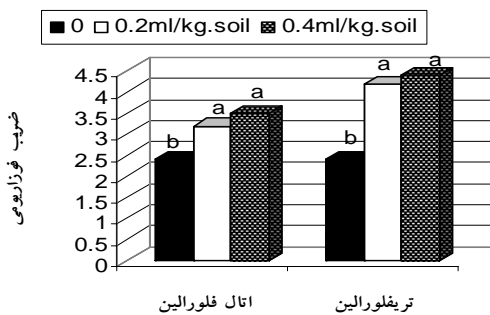


قارچ بیمارگر

(0.03-300 ppm)

(R.s: *Rhizoctonia solani*, F.m: *Fusarium moniliforme*, P.u: *Pythium ultimum*)

($\alpha = 1$)



اتال فلورالین

تریفلورالین

1)

(/ /)

F. moniliforme

($\alpha = 1$)

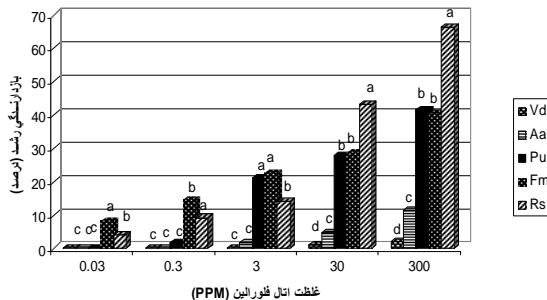
()

()

R. solani

/ **	/ **	
/	/	()
/ **	/ **	
/ **	/ **	x
/	/	()
/	/	(%)

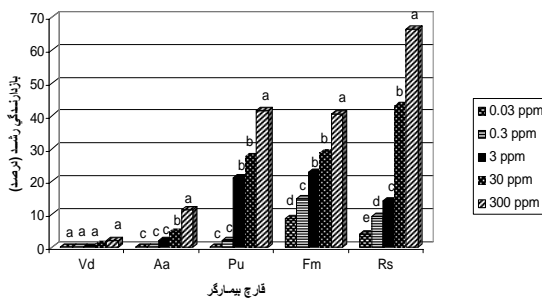
** *



()

(V.d: *Verticillium dahliae*, A.a: *Alternaria alternata*, P.u: *Pythium ultimum*, F.m: *Fusarium moniliforme*, R.s: *Rhizoctonia solani*)

($\alpha = 1$)



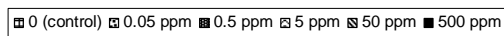
قارچ بیمارگر

()

(0.03-300 ppm)

(V.d: *Verticillium dahliae*, A.a: *Alternaria alternata*, P.u: *Pythium ultimum*, F.m: *Fusarium moniliforme*, R.s: *Rhizoctonia solani*)

($\alpha = 1$)



قارچ بیمارگر

(0.05-500 ppm)

(R.s: *Rhizoctonia solani*, F.m: *Fusarium moniliforme*, P.u: *Pythium ultimum*)

($\alpha = 1$)

R. solani () ()
()

(%)

/ A	g	h	/ g	/ g	f
/ B	a	/ b	/ c	/ d	/ e
	/ A	/ B	/ C	/ D	/ E

R. solani () ()
()

/ A	/ h	/ h	/ h	/ g	f
/ B	/ a	/ b	/ c	/ d	/ e
	/ A	/ B	/ C	/ D	/ E

(P.u F.m)
V.d

In vitro

R.s P.u F.m (α = /)
(α = /) ()

() P.u F.m F.m ()
In vitro

F.m

F. moniliforme > *R. solani* > *P. ultimum* >
A. alternata > *V. Dahliae*

Neubauere & Avizahar-

(1973) Harsheson

In vitro *R. solani*

P.u F.m / ppm

() P.u R.s

(1996) Pinckard & Standifer

R.s

%

... :

R.s P.u

(1987) Youssef *et al.*

/ /

P.u F.m

R.s

F.m P.u

P.u F.m

) ()

) (

(

Fusarium

()

() *R. solani*

Fusarium

($\alpha = /$)

R. solani

(% %)

R. solani

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