

()

Streptomyces

//

Streptomyces

Fusarium oxysporum

f.sp.melonis

/ /

Streptomyces

Streptomyces

%

%

Streptomyces

%

Streptomyces

($p < 0.01$)

%

Streptomyces

%

Streptomyces

($p < 0.01$)

%

%

/

Streptomyces

Fusarium oxysporum f.sp. melonis, Streptomyces:

Streptomyces

Fusarium oxysporum Schlechtend: Fr. f.

sp. melonis (Lach & Currence) W. C. Snyder & H.

N. Hansen

()

Streptomyces

()

()

Fusarium oxysporum f. sp. lycopersici

Pythium P. parasitica Phytophthora cinnamomi

Sclerotium rolfsii ultimum

()

(

Streptomyces ()
Streptomyces *F.oxysporum* f. sp. *narcisi*
 ()
 (**F.O.M**) *Streptomyces* *S.corchorusii* *Streptomyces mutabilis*
Streptomyces *F.oxysporum* f. sp. *lycopersici*
Streptomyces
 ()
 (CGM) Casein Glycerol Medium
 / *Streptomyces*
 / MgSO₄·7H₂O K₂PO₄
 / FeSO₄·7H₂O / *F.oxysporum* f. sp. *melonis*
 ()
Streptomyces *Streptomyces*
F. oxysporum (F.O.M)
 f. sp. *melonis*
 S11C S11B S2VF S11D *Streptomyces*
 SE S3NA S3B S11A
 ()
Phytophthora drechsleri
 ()
 A20 A24, A15 STL, A13
 () ArcSin√x
 MSTATC
 ()

Streptomyces

Streptomyces

Streptomyces

CGM

Streptomyces

()

()

CGM

()

() *Streptomyces*

Streptomyces

°C

()

PDA

()

Streptomyces

()

Streptomyces

Streptomyces

S3B S3NA S2VF

STL A15 A24 A20 S11A S11B S11D S11C

SE A13

) *Streptomyces*

(

Streptomyces

CGM

Streptomyces

()

) *F. oxysporum* f. sp. *melonis*

() ()

()

()

()

Streptomyces + *F. oxysporum* f. sp. *melonis*

) *F. oxysporum* f. sp. *melonis*

() *Streptomyces*

(

(+)

x / x

()

)

Streptomyces + *F.oxysporum* f. sp. *melonis*

|

() *Streptomyces*

(

ArcSin√x

()

Streptomyces

MSTATC

√X + 0.5

()

Streptomyces

Streptomyces

Streptomyces

Streptomyces

S11D
A24

GNA
K₂S₂O₅

L ()

A24,S₂VF,A20,STL,S3B FOM

() CFU

()

Streptomyces

F.oxysporum f.sp. *melonis*

() *Streptomyces*

GNA

CFU

()

Streptomyces

S11D	/ a	/ ab
S11A	/ ab	/ abc
STL	/ ab	/ a
A15	/ bc	/ cde
S11B	/ bcd	/ abcd
A20	/ bcd	/ bcd
S11C	/ cd	/ fgh
A13	/ cd	/ fgh
S3B	/ cd	/ efg
A24	/ cd	/ h
S2VF	/ d	/ gh
S3NA	/ d	/ h

Streptomyces

CFU

CGM

Streptomyces

Streptomyces

S11A, S11D

STL

$$= n \quad n=(a- b)/a \times 100$$

$$= b \quad = a$$

FOM

Sreptomycetes

/

p<0.01

()

Streptomyces

Streptomyces

/

Streptomyces

Streptomyces

()

Streptomyces

()

	()	()	()	()
Streptomyces	/ a	/ a	a	a
Streptomyces+	a	/ a	b	/ b
FOM	/ a	/ a	/ ab	
	/ a	/ ab	/ ab	a
	b	b	c	c

$$=n \quad : n=(a-b)/a \times 100$$

$$=b \quad =a$$

p<0.01

Streptomyces

()

	()	()	()	()
Streptomyces	/ a	/ a	/ a	a
Streptomyces	/ a	/ bc	b	/ a
+ FOM	/ a	/ ab	/ ab	a
	/ a	/ ab	/ b	a
	b	b	c	c

(p<0.01)

Streptomyces

Streptomyces

FOM

Streptomyces

/

()

Streptomyces

()

()

FOM

Streptomyces

S11D	/ a	/ a	/ ab	/ a
S11C	/ a	/ ab	/ ab	/ a
S11A	/ a	/ b	/ b	/ a
S11B	/ a	/ ab	/ a	/ a
SE	/ b	/ c	/ c	/ b
A15	/ b	/ d	/ d	/ b
S2VF	/ c	/ e	/ e	/ c
A20	/ c	/ d	/ ef	/ e
STL	/ d	/ f	/ ef	/ d
S3B	/ d	/ f	/ ef	/ c
A24	/ e	/ g	/ g	/ c

$$= n \quad n=(a-b)/a \times 100$$

$$= b \quad = a$$

p<0.01

()

Streptomyces

... Streptomyces :

(CFU)

	<i>Streptomyces</i>	FOM	<i>Streptomyces</i>	FOM	<i>Streptomyces</i>	FOM
<i>Streptomyces</i> +FOM	(/ ± /)×	(/ ± /)×	(/ ± /)×	(/ ± /)×	(/ ± /)×	(/ ± /)×
<i>Streptomyces</i>	(/ ± /)×		(/ ± /)×		(/ ± /)×	
		(/ ± /)×		(/ ± /)×		(/ ± /)×

FOM= *F. oxysporum* f. sp. *Melonis*

= ±

(CFU)

	<i>Streptomyces</i>	FOM	<i>Streptomyces</i>	FOM	<i>Streptomyces</i>	FOM
<i>Streptomyces</i> +FOM	(/ ± /)×	(/ ± /)×	(/ ± /)×	(/ ± /)×	(/ ± /)×	(± /)×
<i>Streptomyces</i>	(/ ± /)×		(/ ± /)×			
		(/ ± /)×		(/ ± /)×		(/ ± /)×

FOM= *F. oxysporum* f. sp. *Melonis*

= ±

FOM

Streptomyces

/ S3NA

Streptomyces (CFU)

FOM STL

(/ ± /) ×

/

/ ×

CFU/g

Streptomyces

FOM

Streptomyces

()

Streptomyces

Streptomyces

FOM

Streptomyces

()

/

S11D

(Dual culture)

Streptomyces

FOM

Streptomyces / *Streptomyces*

Streptomyces

Streptomyces

FOM

()

/ S11D

Streptomyces

()

(indole-3-acetic acid)

Streptomyces

FOM

Streptomyces sp

()

()

Pythium

Streptomyces

Sclerotium rolfsii

Streptomyces

aphanidermatum

()

Streptomyces

()

Streptomyces

Sclerotinia minor

β -(1,3)-glucanase

Streptomyces

()

Streptomyces

Streptomyces sp

Streptomyces

()

()

()

()

()

Streptomyces

()

()

()

Streptomyces

oat meal broth

Streptomyces

()

Streptomyces :

drechsleri

Streptomyces

()

Soil solarization

Cucumis melo

()

Streptomyces

()

Phytophthora Marcophomina phaseoli

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(

:(

Fusarium oxysporum f.sp. *melois*

:

Streptomyces

(*Phytophthora drechsleri*)

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