

Myrtus communis L.

تاريخ الإيداع 2011/03/07

قبل للنشر في 2011/06/13

		()	1.5	
			%70			
		(%5.25)
	(MS)					20
	(BA)	:				
		(GA3)		(IBA)		(NAA)
4.44	(BA)		(MS)			
		0.58	(GA3)	1.47		(IBA)
4.9	(IBA)	(MS)			12.8	
			.% 95			
		5-4		2:1		
	- (IBA)		- (GA3)		- (BA)	:
		(NAA)		- (MS)		

Effect of Plant Growth Regulators on *In vitro* micropropagation of Myrtle (*Myrtus communis* L.)

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ABSTRACT

Single nodes and axillary buds excised from adult trees of Myrtle (*Myrtus communis* L.) grown in the field under natural conditions at Damascus countryside (Ain Elfiegh) were used as primary explants, which were surface-disinfected by 70% Ethanol and Clorox containing 5.25 % Sodium Hypochlorite with a drop of Tween 20 for different periods and concentrations before being placed onto MS basal medium. Established cultures were then transferred onto MS basal medium containing a combination of growth regulators at different concentrations (BA at 2.22 and 4.44 μM) each with NAA at 0.54, 1.62, 5.4 μM or 1.47 μM IBA with GA3 at 0.58 μM for all treatments. Multiplication rate of 12.8-fold was achieved every 4 weeks on MS medium supplemented with 4.44 μM BA with 1.47 μM IBA and GA3 at 0.58 μM .

Rooting was achieved within 4 weeks on agar-gelled media containing IBA at a conc. of 4.9 μM with 95% efficiency. Rooted plantlets were transplanted into pots with a mixture of 2:1 (v/v) peat:perlite and acclimatized gradually to field conditions throughout 4-5 weeks with high percentage of survival.

The described method has potential to produce hundred thousands of rooted, acclimatized plantlets within a short period of time.

Key Eords: Myrtle, *Myrtus communis* L. Micropropagation, Plant Tissue Cultures, Plant Growth Regulators.

Myrtaceae

(1986

Myrtus Communis L.

)

2800

90

.(Mouterde 1966)

()

)

.(1995

()

.(Gradelie *et al.*, 2008)Radhia *et al.*,)

.(1995)

(2007

2009 - .2010
 :
 () :
 - -
 %70
 NaOCl (1) 25-15-10 %25 %15 (% 5.25)
 Tween 20 100
 Murashige) MS :
 / 0.5 (and Skoog 1962
 / 100 / 0.4
 - / 7 / 30 / 0.5
 5.8-5.7
 20 ² / 1.1 °121
 (BA) :
 (GA3) (NAA) (IBA)
 1±23 (2)
 8 16 3000
 4-3
 (MS) :
 (MS) 4.90-2.46 μM (IBA)
 .(3) .
 :()
 2:1

40 :

ANOVA2

LSD

MSTAT

.05

%15

:

%87-60

25-15-10

% 37-5

% 25

(25)

15

%25

.(1) .

%94

%87

(1)

			%			/	%
80	4	5	87.5	35	40	10	15
80	8	10	70	30	40	15	15
87.5	14	16	60	24	40	25	15
88	22	25	37.5	15	40	10	25
94.28	33	35	12.5	5	40	15	25
39.47	15	38	5	2	40	25	25

(MS2)

(2)

:

MS+4.44 μ M BA + 1.47 μ M IBA + 0.5 μ M GA3

12.87

BA

(MS1)

NAA

IBA

4.51, 2.22 μ M

2.53-3.1

MS5 MS3

MS4

.(1-2-3-4-5

2

) 1.124

MS2

.(4-1

1

2

)

(2)

	GA3	IBA	NAA	BA	
4.510	0.58	1.47	0	2.22	MS1
12.870	0.58	1.47	0	4.44	MS2
2.530	0.58	0	0.54	2.22	MS3
5.830	0.58	0	1.62	2.22	MS4
3.100	0.58	0	5.73	2.22	MS5
2.124				LSD 0.05	

MS

:

(4.90 2.46)

IBA

. / 8/16

(R3)

(3)

5-4

(R2)

%95

.(5

1) .

%15

(R1)

%50

IBA

(3)

%15	MS+0 μM IBA	R1
%50	MS+2.46 μM IBA	R2
%95	MS+4.90 μM IBA	R3

:

2:1

MS

.(6

1)

30

% 85

:

.(Jones *et al.*, 1979; Pevalek-kozalina and Jelaskas, 1987)

2009 2000 2006)
.(2010

:
(Mossa, *et al.*, 2010; Radhia, *et al.*, 2007)

3

BA

(Nordstrom and Eliason, 1986)

BA

0.58μM
4

GA3 12.87

1.47 μM

IBA

4.44μM

(Kosh – Kuhi *et al.*, 1984)

.NAA /

0.1 BA /

1.5

MS

(Nobre, 1994,1997)

NAA /
/ 1

0.5 BA /

2
MS

MS

15

) %40

10

.(1995

4.44 μM

BA

MS

.0.58 μM

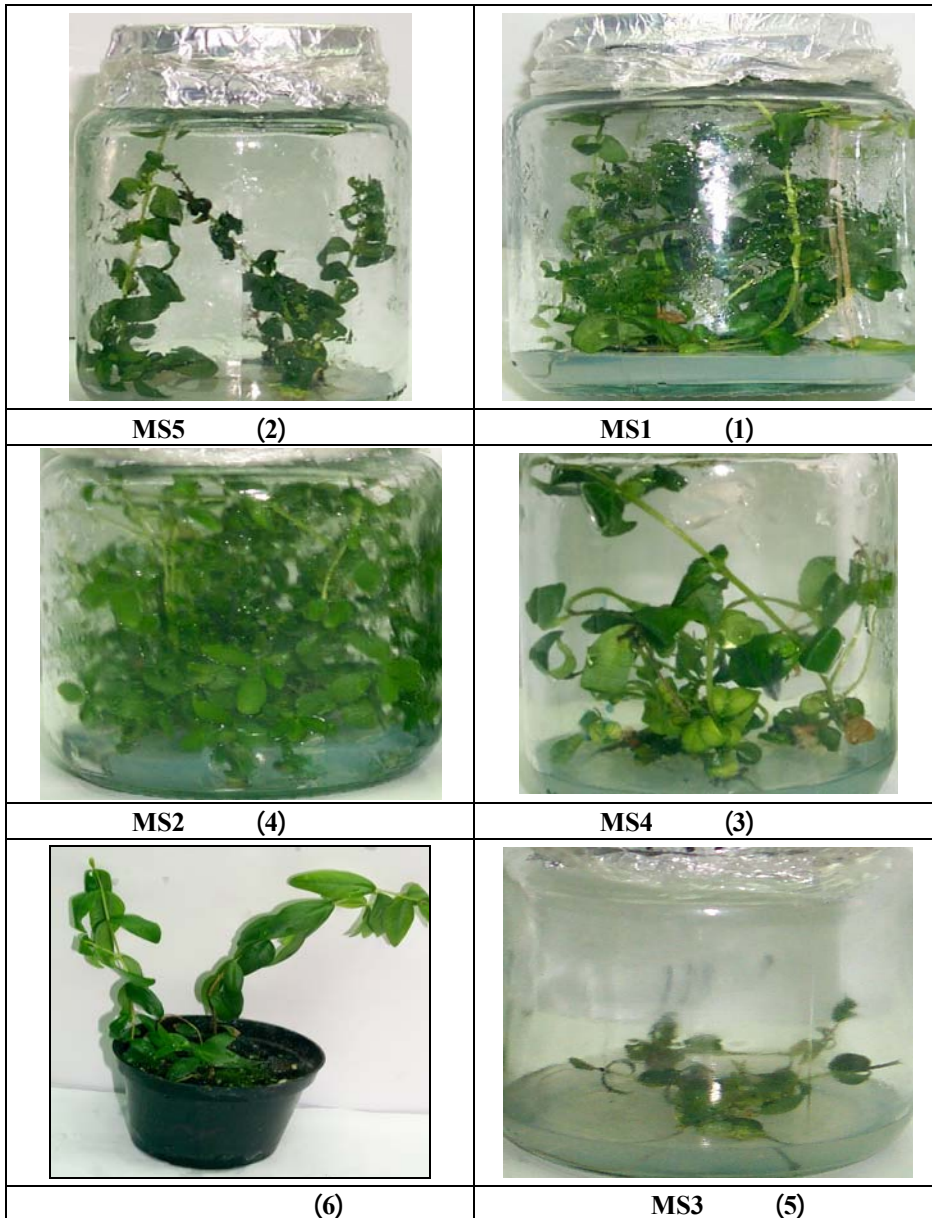
GA3 1.47 μM

IBA

.4.90 μM

IBA

MS



)

.(MS2

4

(1)

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