

Table 1. MS medium preparation from basal salts

Micronutrients	mg/L (1x)	Volume needed in 500ml medium	Final working medium (in 500ml sola)
(MS stock sola A)			
NH <sub>4</sub> NO <sub>3</sub>	1650mg=1.65g	50ml	50ml sola A + 5ml sola B + 5ml sola C + 450ml dH <sub>2</sub> O
KNO <sub>3</sub>	600mg=0.6g		
CaCl <sub>2</sub> ·2H <sub>2</sub> O	450mg=0.45g		
MgSO <sub>4</sub> ·7H <sub>2</sub> O	370mg=0.37g		
KH <sub>2</sub> PO <sub>4</sub>	170=0.17g		
Micronutrients	mg/L (1x)		
(MS stock sola B)			
H <sub>2</sub> BO <sub>3</sub>	6.2mg	5ml	
Na <sub>2</sub> SO <sub>4</sub> ·4H <sub>2</sub> O	22.3mg		
ZnSO <sub>4</sub> ·7H <sub>2</sub> O	8.6mg		
KI	0.83mg		
NaMoO <sub>4</sub> ·H <sub>2</sub> O	0.25mg		
CoCl <sub>2</sub> ·12H <sub>2</sub> O	0.025mg		
CuSO <sub>4</sub> ·5H <sub>2</sub> O	0.025mg		
Iron stock solution	Mg/L (1x)		
(MS stock sola C)			
NaEDTA	27.25	5ml	
FeSO <sub>4</sub> ·7H <sub>2</sub> O	27.85		
Vitamins	Mg/L (1x)		
(MS stock sola D)			
Vit B complex	1mg	5ml	Poured
Glycine	2mg	Not autoclaved	
Myoinositol	100mg	Instead it is filtered	

Table 2. The effect of MS supplemented with IAA and kinetin on shoot regeneration of sweet orange cultivars

Cultivar	IAA	Rep	IAA/Kin	Shoot proliferation rate (%)	Shoot number per explant	Shoot length (cm)	Leaf number/c explant	Initiation date
Washington	Wa	1	0.00 + 0.00	0	0	0	0	0
Washington	Wa	2	0.00 + 0.01	0	0	0	0	0
Washington	Wa	3	1.00 + 0.00	40	1.3	6	3	12
Washington	Wa	4	1.00 + 0.01	43	1.5	5.9	1.6	12
Washington	Wa	5	1.00 + 1.50	96	2	6.2	9.2	7
Washington	Wa	6	1.00 + 1.51	95.4	2.2	6.5	9.1	10
Washington	Wa	7	1.20 + 2.00	100	3.1	10.4	12	8
Washington	Wa	8	1.20 + 2.01	99.5	3	11	11	8
Washington	Wa	9	1.20 + 2.50	98	3	9.8	10.8	9
Washington	Wa	10	1.20 + 2.51	97.6	3.2	10	11	9
Valencia	Va	1	0.00 + 0.00	0	0	0	0	0
Valencia	Va	2	0.00 + 0.01	0	0	0	0	0
Valencia	Va	3	1.00 + 0.00	15.5	1	3	3	20
Valencia	Va	4	1.00 + 0.01	16	1.5	3.2	6.1	18
Valencia	Va	5	1.00 + 1.50	60.2	2	6.6	6.7	17
Valencia	Va	6	1.00 + 1.51	61.1	2.1	3.5	7.1	15
Valencia	Va	7	1.20 + 2.00	67	2	6.5	8	14
Valencia	Va	8	1.20 + 2.01	68.2	2.4	7.2	7.8	15
Valencia	Va	9	1.20 + 2.50	65.8	2.4	6.5	8.2	15
Valencia	Va	10	1.20 + 2.51	72	1	7.1	8.2	17
Tangelo	Ta	1	0.00 + 0.00	0	0	0	0	0
Tangelo	Ta	2	0.00 + 0.01	0	0	0	0	0
Tangelo	Ta	3	1.00 + 0.00	32.4	1	5	7.4	20
Tangelo	Ta	4	1.00 + 0.01	36	1.3	6.8	8	18
Tangelo	Ta	5	1.00 + 1.50	85.4	1	8	16	16
Tangelo	Ta	6	1.00 + 1.51	86	1.4	6.5	8.2	15
Tangelo	Ta	7	1.20 + 2.00	88.2	2	9.5	10	14
Tangelo	Ta	8	1.20 + 2.01	90	1.7	10.4	11.2	13
Tangelo	Ta	9	1.20 + 2.50	87.5	1	8	16	18
Tangelo	Ta	10	1.20 + 2.51	88.1	1.1	9.2	11	16.1

Table 3. The effect of MS supplemented with IAA on rooting response microshoots from nodal segment explants of sweet orange

Cultivar	MS-IAA	Rep	IAA (mg/L)	Rooting rate (%)	Root number per explant	Root length (cm)
Washington	Wa	1	0	0	0	0
Washington	Wa	2	0.0	0	0	0
Washington	Wa	3	0.3	50.1	3.2	1.8
Washington	Wa	4	0.3	52.3	3.28	1.76
Washington	Wa	5	0.5	65.8	3.8	2.1
Washington	Wa	6	0.5	70.52	4.3	2.4
Washington	Wa	7	1.0	70.2	4.1	2.6
Washington	Wa	8	1.0	68.9	4.2	2.8
Washington	Wa	9	1.5	82.4	4.8	2.8
Washington	Wa	10	1.5	86.1	5.1	3.1
Valencia	Va	1	0	0	0	0
Valencia	Va	2	0.0	0	0	0
Valencia	Va	3	0.3	19.3	1.1	1.2
Valencia	Va	4	0.3	20.5	2.25	1.14
Valencia	Va	5	0.5	44.2	2.6	0.7
Valencia	Va	6	0.5	45.2	2.71	0.89
Valencia	Va	7	1.0	40.8	3.2	2.3
Valencia	Va	8	1.0	42.3	3.31	2.27
Valencia	Va	9	1.5	48.6	3.5	2.2
Valencia	Va	10	1.5	48.3	3.59	2.32
Tangelo	Ta	1	0	0	0	0
Tangelo	Ta	2	0.0	0	0	0
Tangelo	Ta	3	0.3	25.6	2.5	1.4
Tangelo	Ta	4	0.3	26.4	2.57	1.39
Tangelo	Ta	5	0.5	48.7	3.3	1.9
Tangelo	Ta	6	0.5	47	3.21	2.12
Tangelo	Ta	7	1.0	40.3	3.9	1.9
Tangelo	Ta	8	1.0	49.2	4.1	2.12
Tangelo	Ta	9	1.5	56.2	4.6	2.1
Tangelo	Ta	10	1.5	55.8	4.52	2.2

Table 4. The effect of MS supplemented with IAA on rooting response microshoots from nodal segment explants of sweet orange cultivars

Cultivar	NAA	Rep	Rooting rate (%)	Root number per explant	Root length (cm)
Washington	0	1	0	0	0
Washington	0	2	0	0	0
Washington	0.3	1	56.4	3.6	2.1
Washington	0.3	2	58.3	3.78	2.34
Washington	0.5	1	68.8	4	2.45
Washington	0.5	2	70.52	4.3	2.4
Washington	1	1	72.2	4.8	2.6
Washington	1	2	73	4.2	2.8
Washington	1.5	1	84.7	5.3	3
Washington	1.5	2	85.1	5.1	3.1
Valencia	0	1	0	0	0
Valencia	0	2	0	0	0
Valencia	0.3	1	26.4	2.6	1.7
Valencia	0.3	2	25.5	2.65	1.74
Valencia	0.5	1	50.9	3.3	2.1
Valencia	0.5	2	48.2	3.3	2.1
Valencia	1	1	55.8	4.1	2.3
Valencia	1	2	54.3	4.31	2.27
Valencia	1.5	1	59.6	4.8	2.65
Valencia	1.5	2	58.3	4.91	2.7
Tangelo	0	1	0	0	0
Tangelo	0	2	0	0	0
Tangelo	0.3	1	52.2	2.8	1.7
Tangelo	0.3	2	53.1	2.88	1.78
Tangelo	0.5	1	50.9	3.2	2.2
Tangelo	0.5	2	51.2	3.45	2.18
Tangelo	1	1	52.3	4.2	2.3
Tangelo	1	2	49.2	4.1	2.21
Tangelo	1.5	1	63.5	5.5	2.8
Tangelo	1.5	2	65.8	5.52	2.48

Table 5. Comparison of IAA and NAA on rooting of microshoots from shoot tip nodal segment explants of three orange cultivars

Response	Washington Nerval cultivar			Valencia cultivar			Tangelo cultivar					
	Concentrations of IAA or NAA (mg/L)			Concentrations of IAA or NAA (mg/L)			Concentrations of IAA or NAA (mg/L)					
RR	51.20b	68.76a	69.55b	81.25b	20.00b	44.70b	41.55b	48.45b	26.00b	47.85b	49.75a	56.00b
RN	57.35a	69.66a	72.60a	84.90a	25.95a	49.20a	55.05a	58.95a	32.65a	51.05a	50.75a	64.15a
RNI	3.24a	4.05b	4.15b	4.95c	2.18c	2.66c	3.26cd	3.55d	2.56cd	3.26cd	4.00b	4.56cd
RNI	3.09c	4.19b	4.50c	5.20c	2.65c	3.20c	4.21c	4.86c	2.84c	3.48c	4.15b	5.51c
RL	1.78c	2.25b	2.70a	2.98d	1.17d	1.80c	2.20d	2.26c	1.40c	2.01d	2.06b	2.15d
RLI	2.22b	2.43b	2.70a	3.05d	1.72d	2.05c	2.20d	2.68cd	1.74cd	2.19d	2.20b	2.44d

Means followed by the same letter within a column were not significantly different at 0.05 probability level based on Least Significance Difference (LSD) test. Small letters significance within a column. Where RRE: rooting rate due to IAA supplement; RRN: rooting rate due to NAA supplement; RNI: root number due to IAA supplement; RNI: root number due to NAA supplement; RRL: rooting length due to IAA supplement; RLI: root length due to NAA supplement.