

Appendix 1

Murashige and Skoog Basal Salt (MS)

Components	Concentration / Volume (1 Litre)
Macronutrient	
i. NH_4NO_3	1600 mg
ii. KNO_3	2002 mg
iii. KH_2PO_4	142 mg
iv. $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$	440 mg
v. $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	740 mg
Micronutrient	
i. H_3BO_3	9 mg
ii. $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$	22 mg
iii. $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	11 mg
iv. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	0.37 mg
v. $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$	1.2 mg
vi. $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$	0.23 mg
vii. KI	0.83 mg
NaFe EDTA	36.71 mg

Appendix 2

Callus Induction Medium (CI)

Components	Concentration / Volume (1 Litre)
Half Strength of MS Salt	
Vitamin	
i. Glycine	200 mg
ii. Nicotinic Acid	50 mg
iii. Pyridoxine	50 mg
iv. Thiamine	50 mg
v. Casein Hydrolysate	1000 mg
2,4-D	10 mg
Sucrose	6 %
Adenine Sulphate	143 mg
Myo-inositol	50 mg
Phytigel	1950 mg
Glutamine	400 mg
Antibiotic	
i. Carbenicilin	250 mg
pH	5.8

Appendix 3

Liquid Multiplication Medium (LM)

Components	Concentration / Volume (1 Litre)
Half Strength of MS Salt	
Vitamin	
i. Glycine	200 mg
ii. Nicotinic Acid	50 mg
iii. Pyridoxine	50 mg
iv. Thiamine	50 mg
v. Casein Hydrolysate	1000 mg
2,4-D	2 mg
Sucrose	6 %
Adenine Sulphate	143 mg
Myo-inositol	50 mg
Glutamine	400 mg
Antibiotic	
i. Carbenicilin	250 mg
pH	5.8

Appendix 4**Germination Medium (G)**

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
6-benzylaminopurine (BAP)	0.2 mg
Naphthaleneacetic Acid (NAA)	0.2 mg
Sucrose	3 %
Myo-inositol	108 mg
Phytigel	3100 mg
pH	5.8

Appendix 5**Regeneration Medium (R)**

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
6-benzylaminopurine (BAP)	1.0 mg
Naphthaleneacetic Acid (NAA)	0.1 mg
Gibberellic Acid (GA ₃)	1.0 mg
Indole-3-Butyric Acid (IBA)	2.0 mg
Sucrose	3 %
Phytigel	3150 mg
pH	5.8

Appendix 6
Rooting Medium**A1**

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Sucrose	2 %
Phytigel	3130 mg
pH	5.65

A2

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Indole-3-Butyric Acid (IBA)	2.0 mg
Sucrose	2 %
Phytigel	3130 mg
pH	5.65

A3

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Indole-3-Butyric Acid (IBA)	3.0 mg
Sucrose	2 %
Phytigel	3130 mg
pH	5.65

A4

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Indole-3-Butyric Acid (IBA)	4.0 mg
Sucrose	2 %
Phytigel	3130 mg
pH	5.65

A5

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Indole-3-Butyric Acid (IBA)	5.0 mg
Sucrose	2 %
Phytigel	3130 mg
pH	5.65

B

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Indole-3-Butyric Acid (IBA)	2.0 mg
Indole-3-Acetic Acid (IAA)	3.0 mg
Sucrose	1.5 %
Phytigel	900 mg
Activated Charcoal	400 mg
pH	5.8

C

Components	Concentration / Volume (1 Litre)
Full Strength of MS Salt	
Gibberellic Acid	3.0 mg
Indole-3-Acetic Acid (IAA)	3.0 mg
Sucrose	1.5 %
Phytigel	900 mg
Activated Charcoal	400 mg
pH	5.8