

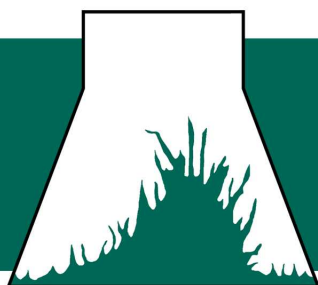
# WOODY & DECIDUOUS PLANT TISSUE CULTURE MEDIA

*Phyto* Technology Laboratories offers several media specifically developed for the culture of woody plants. These media range from basic salt formulations to complete media with gelling agents, vitamins, carbohydrates, and plant growth regulators.



All of our media are manufactured according to cGMP procedures in our environmentally controlled manufacturing facility in Lenexa, KS. Each medium is first tested for specific physio-chemical specifications and then biologically tested with two commercially significant plant cell lines. *Phyto* Technology Laboratories is committed to maintaining inventory of its entire line of plant tissue culture media. Some features of our manufactured media include:

- All media components meet USP, ACS, or FCC quality standards, where applicable.
- *Phyto* Technology Laboratories has capacity to manufacture lots of certain media up to 50,000 liters.
- Using powder media simplifies medium production and reduces technician error when preparing media batches.
- *Phyto* Technology Laboratories can custom package your media into sizes that fit your normal batch production needs. This reduces time in weighing and allows you to simply open the bottle and pour out the entire contents.
- Using *Phyto* Technology Laboratories Lot Reservation Program for manufactured media allows you to use the same lot of medium for up to one year. This reservation program is offered to you at no additional cost.
- Custom liquid and powdered media can be manufactured for you using your confidential formulation in lots ranging from 100 liters up to 25,000 liters. Contact us for more details.
- Powdered media has a shelf life of 3 years, whereas stock solutions should be made fresh every 3-6 months.
- There is no minimum order with *Phyto* Technology Laboratories.

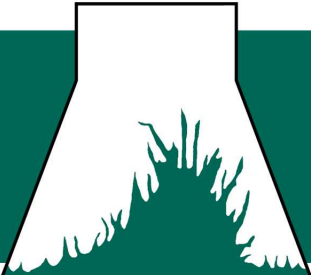


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The following table will help in the selection of base media for use in your research or micropropagation applications.

Product Number	Product Description	Plant Species	IAA mg/L	NAA mg/L	6-BA mg/L	2iP mg/L	Kinetin mg/L	Other
A267	Anderson's Basal Salt Mixture	<i>Erica carnea</i> <i>Kalmia augustifolia</i> <i>Rhododendron catawbiense</i> <i>Rhododendron</i> hybrids <i>Rhododendron</i> PJM hybrids <i>Rubus idaeus</i> <i>Rubus occidentalis</i> <i>Vaccinium augustifolium</i>	4.0			15.6 15.5  15-17 5.0  4.0 1.0-2.0 15.0		Shoot Multip Shoot Multip  Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip
C287	Chee & Pool Vitis Cd2 Medium	<i>Vitis</i> spp.		0.9		1.1		Shoot Multip
D146	DCR Basal Salt Mixture	<i>Picea glauca</i>		2.5			1.0	Callus Growth
D189	DKW Basal Salt Mixture	<i>Juglans hindsii</i> <i>Juglans nigra</i>			1.0 2.5			Shoot Multip Shoot Multip
D190	DKW Basal Salt Mixture	<i>Juglans hindsii</i> <i>Juglans nigra</i>			1.0 2.5			Shoot Multip Shoot Multip
D191	DKW Basal Salt Mixture	<i>Juglans hindsii</i> <i>Juglans ni gra</i>			1.0 2.5			Shoot Multip Shoot Multip
H435	Hosta Initiation/Multiplication Medium	<i>Hosta sieboldiana</i>						
H436	Hosta Multiplication Medium	<i>Hosta sieboldiana</i>						
H437	Hosta Rooting Medium	<i>Hosta sieboldiana</i>						
L154	Lloyd & McCown's Woody Plant Basal Salt Mixture	<i>Betula</i> spp. <i>Carya ilinoensis</i> <i>Ceris Canadensis</i> <i>Fraxinus americana</i> <i>Fraxinus pennsylvanica</i> <i>Halesia carolina</i> <i>Kalmia latifolia</i> <i>Liquidambar styraciflua</i> <i>Populus</i> spp. <i>Prunus armeniaca</i> <i>Quercus shumardii</i> <i>Rhododendron</i> spp. <i>Rosa chinensis</i> <i>Salix</i> spp. <i>Taxus floridana</i> <i>Vaccinium corymbosum</i>			0.9  3.0 2.0 0.5 0.5-1.0 1.0-2.5  1.0 0.09  2.0  0.9 0.1-0.2 1.0	1.63    2.0  0.8-3.2  5.0		Shoot Multip  Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip Shoot Multip
L444	Lloyd & McCown Micronutrient Salts	See Infor for L154						
L449	Lloyd & McCown's WPM Medium	See Infor for L154						
Q673	Quoirin & Lepoivre Basal Salt Mixture	<i>Prunus</i> spp.			1.0			Shoot Multip
R756	Rose Initiation Medium	<i>Rosa hybrida</i>						Shoot Initiation
R757	Rose Multiplication Medium	<i>Rosa hybrida</i>	0.3		3.0			Shoot Multip
R758	Rose Rooting Medium	<i>Rosa hybrida</i>						Shoot Rooting



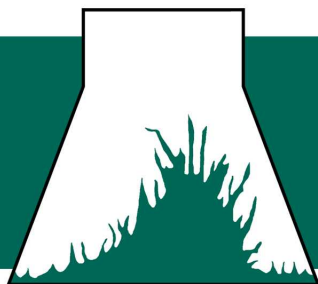
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	Anderson's Basal Salt Mixture	Chee & Pool Vitis Cd2 Medium	DCR Basal Salts	DKW Basal Salt Mixture	Hosta Medium	Lloyd and McCown's Woody Plant Salts & Medium	Lloyd and McCown's WPM Micronut. Mixture	M & S Modified (1/2 Micros & Micros)	Quoirin & Lepoivre Basal Salt Mixture	Rose Initiation Medium	Rose Rooting Medium
COMPONENT	A267	C287	D146	D189 D190 D191	H435 H436 H437	L154 L449	L444	M153	Q673	R756 R757	R758
Ammonium Nitrate	400.0	1650.0	400.0	1416.0	1650.0	400.0		825.0	400.0	1650.0	412.5
Boric Acid	6.2	6.2	6.2	4.8	6.2	6.2	6.2	3.1	6.2	6.2	1.55
Calcium Chloride Anhydrous	332.2		64.14	112.5	332.2	72.5	72.5	166.1		332.2	83.25
Calcium Nitrate		492.3	386.31	1367.0		386.0			833.77		
Cobalt Chloride•6H <sub>2</sub> O	0.025	0.025	0.025		0.025			0.0125	0.025	0.025	0.006
Cupric Sulfate•5H <sub>2</sub> O	0.025	0.025	0.025	0.25	0.025	0.25	0.25	0.0125	0.025	0.025	0.006
FeNaEDTA											9.175
Na <sub>2</sub> -EDTA	74.5	37.3	37.3	45.5	37.26	37.3	37.3	18.63	37.3	37.26	
Ferrous Sulfate•7H <sub>2</sub> O	55.7	27.8	27.8	33.8	27.8	27.9	27.85	13.9	27.8	27.8	
Magnesium Sulfate	180.7	180.6	180.7	361.49	180.7	180.7	180.7	93.5	175.79	180.7	45.25
Manganese Sulfate•H <sub>2</sub> O	16.9	0.845	22.3	33.5	16.9	22.3	22.3	8.45	0.76	16.9	4.225
Molybdic Acid (Sodium Salt)•2H <sub>2</sub> O	0.25	0.25	0.25	0.39	0.25	0.25	0.25	0.125	0.25	0.25	0.063
Nickel Chloride•6H <sub>2</sub> O			0.025								
Nickel Sulfate•6H <sub>2</sub> O				0.005							
Potassium Iodide	0.3		0.83		0.83			0.415	0.08	0.83	0.208
Potassium Nitrate	480.0	1900.0	340.0		1900.0				1800.0	1900.0	475.0
Potassium Phosphate Monobasic		170.0	170.0	265.0	300.0	170.0	170.0	85.0	270.0	170.0	42.5
Potassium Sulfate				1559.0		999.0					
Sodium Phosphate Monobasic	330.6				170.0						
Zinc Nitrate•6H <sub>2</sub> O				17.0	8.6						
Zinc Sulfate•7H <sub>2</sub> O	8.6	8.6	8.6			8.6	8.6	4.3	8.6	8.6	2.15
<b>Other Components (mg/L unless other wise specified)</b>		Also contains 1.0 Thiamine, 1.0 Nicotinic Acid, 1.0 Pyridoxine HCl		D189 contains 30g/l Sucrose D191 contains 10 g/L Sucrose	See Catalogue or Technical Information on Web site for complete formulation	L449 contains vitamins (See Catalogue or Technical Information on Web site)				See Catalogue or Technical Information on Web site for complete formulation	See Catalogue or Technical Information on Web site for complete formulation

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