







#### PRODUCT CATALOGUE & LABORATORY GUIDE

1 Kit

#### TISSUE CULTURE KITS

PhytoTechnology Laboratories® provides a series of plant tissue culture kits for educational demonstrations. Each kit comes with a variety of media and equipment appropriate to the plant species featured in the kit.

#### **Basic Kit Components**

The Kits outlined in this catalogue follow the same general format, and include the following:

- Plastic Culture Vessels
- Petri Dishes
- Forceps, Scoops, Scalpel Handles and Blades
- Vinegar & Baking Soda for pH adjustment
- Sucrose (if needed by media formulation)
- Gelling Agents (if needed by media formulation)
- Plant Tissue Culture Media
- Instruction Manual

Some kits can be purchased with a live plant (for continental United States customers only).

#### New Kits in this Catalogue

• C1850 - Cannabis/Hemp Kit

#### **Items You Must Supply**

While the tissue culture kits outlined in this catalogue provide significant amount of materials, they do not provide every item you may need. You will be responsible for providing the following:

- 10% Chlorine Bleach or other sterilant to disinfect plant material. Tween 20 (Product Number P720) or other suitable wetting agent.
- Bunsen burner (Product Number B966), alcohol lamp (Product Number B876), glass bead sterilizer (Product Number S7510/S7520) or other method to sterilize instruments.
- Distilled or deionized water, or Sterile Tissue Culture Grade Water (Product No. W783).
- Large 2-liter flask, beaker, or container for mixing the media. Product Number F986 - 2000mL Flask is available for purchase separately.
- A method to sterilize your media, usually a pressure cooker or an autoclave.
- Growth lights: fluorescent lights or other suitable areas for growing plants.
- Any live plant matter needed, unless otherwise specified in Kit description.

#### A137 - AFRICAN VIOLET MULTIPLICATION KIT

The purpose of this kit is to demonstrate *in vitro* vegetative propagation. This kit provides the necessary materials to initiate cultures from the leaf blades and petioles of African Violet leaves (not included in kit).

\*Individual kit components may be substituted for equivalent products when necessary.

		This Kit Contains:	
Product Number	Package Size	Product Description	Quantity
C215	10 Each	Culture Container	1
F951	1 Each	Forceps, 8"	2
S963	1 Each	Scalpel Handel, No. 3	1
S971	1 Each	Scalpel Blades	2
P334	1 Each	pH Strips, 4.0 - 7.0	1
D940	20 Each	Petri Dishes	1
V886	15mL	Vinegar	1
S803	25g	Baking Soda	1
P068	1 Each	Pipet, Plastic Transfer	2
M401	1L	Murashige & Skoog Modified Medium	3
M508	1L	Murashige Modified Fern Multiplication Basal Medium	3
M517	1L	Murashige African Violet/ Gloxinia Multiplication Medium	3
M518	1L	Murashige African Violet/ Gloxinia Pretransplant Medium	3
S391	500g	D-Sucrose	1
A111/ A296	9g	Agar	12
Instructio	n Manual		1
	A۷	AILABLE PACKAGE SIZES	

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#### **New Product**

#### C1850 - CANNABIS/HEMP KIT

The purpose of this kit is to demonstrate *in vitro* vegetative propagation. This kit provides the necessary materials to initiate cultures from the seeds and/or stem tissues of Cannabis.

Plant tissues are not included in kit.

\*Individual kit components may be substituted for equivalent products when

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	This Kit Contains:			
Product Number	Package Size	Product Description	Quantity	
C1898	25 Each	Flip-Cap Culture Containers	1	
F951	1 Each	Forceps, 8"	1	
S963	1 Each	Scalpel Handle, No. 3	1	
S970	1 Each	Scalpel Blades, No. 10	2	
P334	1 Each	pH Strips, 4.5-7.5	1	
V886	15mL	Vinegar	1	
S803	25g	Baking Soda	1	
P067	1 Each	Plastic Bulb Pipette, 1 mL	5	
S391	500g	Sucrose	1	
A111	100g	Agar	1	
I460	100mL	IBA – 1 mg/mL Solution	1	
N605	100mL	NAA - 1 mg/mL Solution	1	
T7999	10mL	TDZ (Thidiazuron)- 1 mg/mL Solution	1	
M519	10L	Murashige & Skoog (MS) Medium w/Vitamins	2	
D940	20 Each	Sterile Petri Dishes	1	
Instructio	Instruction Manual			
	Αv	AILABLE PACKAGE SIZES		
1 Kit				

#### C1835 - Cape Sundew & Venus Flytrap Tissue CULTURE KIT

The purpose of this kit is to is to demonstrate the tissue culture of Cape Sundew and Venus Flytrap at multiplication and pretransplant stages.

A Cape Sundew or Venus Flytrap culture can be purchased with

\*Individual kit components may be substituted for equivalent products when

necessary.			
		This Kit Contains:	
Product Number	Package Size	Product Description	Quantity
C215	10 Each	Culture Container	1
F951	1 Each	Forceps, 8"	2
S963	1 Each	Scalpel Handel, No. 3	1
S971	1 Each	Scalpel Blades	2
P334	1 Each	pH Paper, 4.5 - 7.5	1
D940	20 Each	Petri Dishes	1
V886	15mL	Vinegar	1
S803	25g	Baking Soda	1
P068	1 Each	Pipet, Plastic Transfer	2
C206	1L	Cape Sundew/Venus Flytrap Multiplication Basal Medium	5
C216	1L	Cape Sundew/Venus Flytrap Pretransplant Basal Medium	5
S391	500g	D-Sucrose	1
A111/ A296	9g	Agar	10
Optional - Cape Sundew OR Venus Flytrap Culture 1 (Continental United States Only)			
Instruction Manual 1			
Available Package Sizes			
1 Kit			
1 Kit with Cape Sundew Culture			

1 Kit with Venus Flytrap Culture

### FIND PLANT TISSUE CULTURE MEDIA ON PAGES 57 TO 130

- MS Media
- Crop Specific Media
- Vitamin Solutions
- Orchid Media
- Stock Solutions





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#### C1955 - CARROT TISSUE CULTURE KIT

The purpose of this kit is to study the somatic embryogenisis through carrot callus. Kit does not include carrot root.
\*Individual kit components may be substituted for equivalent products when necessary.

	This Kit Contains:	
Package Size	Product Description	Quantity
10 Each	Culture Container	1
1 Each	Forceps, 8"	2
1 Each	Scalpel Handel, No. 7	1
1 Each	Scalpel Blades	2
1 Each	pH Strips, 4.0 - 7.0	1
20 Each	Petri Dishes	1
15mL	Vinegar	1
25g	Baking Soda	1
1 Each	Pipet, Plastic Transfer	2
1L	Carrot Callus Initiation Medium	5
1L	Carrot Shoot Development Medium	5
500g	D-Sucrose	1
2g	Gellan Gum	10
n Manual		1
Αv	AILABLE PACKAGE SIZES	
	Size  10 Each  1 Each  1 Each  1 Each  20 Each  15mL  25g  1 Each  1L  1L  500g  2g  n Manual	Package Size Description  10 Each Culture Container  1 Each Forceps, 8"  1 Each Scalpel Handel, No. 7  1 Each Scalpel Blades  1 Each PH Strips, 4.0 - 7.0  20 Each Petri Dishes  15mL Vinegar  25g Baking Soda  1 Each Pipet, Plastic Transfer  1L Carrot Callus Initiation Medium  1L Carrot Shoot Development Medium  500g D-Sucrose  2g Gellan Gum

#### F354 - FERN MULTIPLICATION KIT

The purpose of this kit is to demonstrate *in vitro* fern shoot multiplication. To shipments within the continental United States, an established fern culture is provided so that it may be subcultured to observe the rapid, *in vitro* production of plants. Cultures can also be generated from runner tips (not included with this kit).

\*Individual kit components may be substituted for equivalent products when necessary.

This Kit Contains:			
Product Number	Package Size	Product Description	Quantity
C215	10 Each	Culture Container	1
F951	1 Each	Forceps, 8"	2
S963	1 Each	Scalpel Handel, No. 3	1
S971	1 Each	Scalpel Blades	2
P334	1 Each	pH Paper, 4.5 - 7.5	1
D940	20 Each	Petri Dishes	1
V886	15mL	Vinegar	1
S803	25g	Baking Soda	1
P068	1 Each	Pipet, Plastic Transfer	2
M401	1L	Murashige & Skoog Modified Medium	4
M508	1L	Murashige Modified Fern Multiplication Basal Medium	4
M555	1L	Murashige & Skoog Modified Multiplication Medium	4
S391	500g	D-Sucrose	1
A111/ A296	9g	Agar	12
Optional - Fern Culture (Continental United States Only)			1
Instruction Manual			1
Available Package Sizes			
1 Kit			
1 Kit with Fern Culture			

#### FIND BIOCHEMICALS ON PAGES 15 TO 56

- Gelling Agents
- Plant Growth Regulators
- Media Components
- Stains and Dyes
- Carbohydrates





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The purpose of this kit is to demonstrate in vitro vegetative propagation and the effects of the cytokinin BA on shoot multiplication. To shipments within the continental United States, an established Hosta culture is provided.

\*Individual kit components may be substituted for equivalent products when necessary.

This Kit Contains:				
Product Number	Package Size	Product Description	Quantity	
C215	10 Each	Culture Container	1	
F951	1 Each	Forceps, 8"	2	
S963	1 Each	Scalpel Handel, No. 3	1	
S971	1 Each	Scalpel Blades	2	
P334	1 Each	pH Paper, 4.5 - 7.5	1	
D940	20 Each	Petri Dishes	1	
V886	15mL	Vinegar	1	
S803	25g	Baking Soda	1	
P068	1 Each	Pipet, Plastic Transfer	2	
H435	1L	Hosta Initiation / Multiplication Medium	3	
H3959	1L	Hosta Initiation / Multiplication Medium II	3	
H436	1L	Hosta Multiplication Medium	3	
H437	1L	Hosta Rooting Medium	3	
B130	100mL	6-Benzylaminopurine Solution	1	
A111/ A296	9g	Agar	12	
Optional - Hosta Culture (Continental United 1 States Only)				
Instruction Manual 1				
Available Package Sizes				
1 Kit				
1 Kit with Hosta Culture				

The purpose of this kit is to demonstrate in vitro vegetative propagation from lily scales. To shipments within the continental United States, a Lily Bulb is supplied. \*Individual kit components may be substituted for equivalent products when

necessary.					
	This Kit Contains:				
Product Number	Package Size	Product Description	Quantity		
C215	10 Each	•	1		
F951	1 Each	Forceps, 8"	2		
S963	1 Each	Scalpel Handel, No. 3	1		
S971	1 Each	Scalpel Blades	2		
S088	1 Each	Spatula / Scoop	1		
P334	1 Each	pH Paper, 4.5 - 7.5	1		
D940	20 Each	Petri Dishes	1		
V886	15mL	Vinegar	1		
S803	25g	Baking Soda	1		
P068	1 Each	Pipet, Plastic Transfer	2		
M401	1L	Murashige & Skoog Modified Medium	4		
M555	1L	Murashige & Skoog Modified Multiplication Medium	4		
M508	1L	Murashige Fern Multiplication Medium	4		
S391	500g	D-Sucrose	1		
A111/ A296	9g	Agar	12		
Optional - Lily Bulb (Continental United States 1 Only)					
Instruction Manual					
Available Package Sizes					
1 Kit					
1 Kit with Lily Bulb Culture					

### FIND SEED TESTING PRODUCTS ON PAGES 165 TO 172

- PhytoSelect Basal Medium
- mD5A Medium
- Stains & Dyes
- King's B Medium
- Selection Agents





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#### O755 - Orchid Stem Propagation Kit

This kit is designed to stimulate the multiplication of shoots from stem cuttings of orchids, particularly *Phalaenopsis* orchids. A *Phalaenopsis* orchid in flower is needed for this kit (not included with the kit).

\*Individual kit components may be substituted for equivalent products when necessary.

This Kit Contains:					
Product Number	Package Size	Product Description	Quantity		
C215	10 Each	Culture Container	1		
F951	1 Each	Forceps, 8"	2		
S963	1 Each	Scalpel Handel, No. 3	1		
S971	1 Each	Scalpel Blades	2		
S088	1 Each	Spatula / Scoop	1		
P334	1 Each	pH Paper, 4.5 - 7.5	1		
D940	20 Each	Petri Dishes	1		
V886	15mL	Vinegar	1		
S803	25g	Baking Soda	1		
P068	1 Each	Pipet, Plastic Transfer	2		
P748	1L	Orchid Maintenance/Replate Medium	3		
B141	1L	BM-1 Terrestrial Orchid Medium	3		
B142	1L	BM-2 Terrestrial Orchid Medium	2		
O753	1L	Orchid Multiplication Medium	3		
Instructio	Instruction Manual 1				
	Available Package Sizes				
1 Kit	1 Kit				

#### O788 - Terrestrial Orchid Seed Sowing Kit

The purpose of this kit is to allow for the germination of terrestrial orchid seeds (not included with the kit), and their subsequent replate.

\*Individual kit components may be substituted for equivalent products when necessary.

This Kit Contains:				
Product Number	Package Size	Product Description	Quantity	
C215	10 Each	Culture Container	1	
F951	1 Each	Forceps, 8"	2	
S963	1 Each	Scalpel Handel, No. 3	1	
S971	1 Each	Scalpel Blades	2	
S088	1 Each	Spatula / Scoop	1	
P334	1 Each	pH Paper, 4.5 - 7.5	1	
D940	20 Each	Petri Dishes	1	
V886	15mL	Vinegar	1	
S803	25g	Baking Soda	1	
P068	1 Each	Pipet, Plastic Transfer	2	
T849	1L	Terrestrial ( <i>Cypripedium</i> ) Orchid Medium	2	
T839	1L	Terrestrial ( <i>Cypripedium</i> ) Orchid Medium	2	
B141	1L	BM-1 Terrestrial Orchid Medium	2	
B142	1L	BM-2 Terrestrial Orchid Medium	2	
K425	1L	Knudson C Modified Plus Orchid Medium	3	
M551	1L	Malmgren Modified Terrestrial Orchid Medium	2	
Instruction Manual			1	
Available Package Sizes				

# FOR MORE INFORMATION ABOUT ORCHID MICROPROPAGATION

1 Kit

See "Tissue Culture & Orchids" on page 250 in the Technical Section.

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### O799 - EPIPHYTIC ORCHID SEED SOWING KIT

The purpose of this kit is to allow for the germination of epiphytic orchid seeds (not included with the kit), and their subsequent replate.

\*Individual kit components may be substituted for equivalent products when necessary.

This Kit Contains:				
Product Number	Package Size	Product Description	Quantity	
C215	10 Each	Culture Container	1	
F951	1 Each	Forceps, 8"	2	
S963	1 Each	Scalpel Handel, No. 3	1	
S971	1 Each	Scalpel Blades	2	
S088	1 Each	Spatula / Scoop	1	
P334	1 Each	pH Paper, 4.5 - 7.5	1	
D940	20 Each	Petri Dishes	1	
V886	15mL	Vinegar	1	
S803	25g	Baking Soda	1	
P068	1 Each	Pipet, Plastic Transfer	2	
P723	1L	Orchid Seed Sowing Medium	3	
P785	1L	<i>Phyto</i> Tech™ Orchid Replate Medium	2	
P748	1L	Orchid Maintenance/Replate Medium	2	
K425	1L	Knudson C Modified Plus Orchid Medium	2	
V895	1L	Vacin & Went Modified Orchid Medium	3	
Instruction Manual			1	
Available Package Sizes				
1 Kit				

#### P6963 - POTATO TISSUE CULTURE KIT

For study of micropropagation via nodal segments and formation of microtubers. Kit does not include a potato. \*Individual kit components may be substituted for equivalent products when necessary.

necessary.				
	This Kit Contains:			
Product	Package	Product	Quantity	
Number	Size	Description	Quantity	
C215	10 Each	Culture Container	1	
F951	1 Each	Forceps, 8"	2	
S963	1 Each	Scalpel Handel, No. 3	1	
S971	1 Each	Scalpel Blades	2	
P334	1 Each	pH Paper, 4.5 - 7.5	1	
D940	20 Each	Petri Dishes	1	
V886	15mL	Vinegar	1	
S803	25g	Baking Soda	1	
P068	1 Each	Pipet, Plastic Transfer	2	
M516	1L	Murashige & Skoog Modified	5	
		BC Potato Basal Medium		
M404	1L	Murashige & Skoog with	5	
		Gamborg's Vitamins		
S391	500g	D-Sucrose	1	
A111/	9g	Agar	10	
A296				
B130	100mL	6-Benzylaminopurine Solution	1	
N605	100mL	NAA Solution	1	
Instruction Manual			1	
Available Package Sizes				
1 Kit	1 Kit			

# FIND MEDIA FOR ORCHIDS IN THE PANT TISSUE CULTURE MEDIA SECTION ON PAGES 57 TO 130



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