



Floresta™

A New Standard in Foliage Cuttings by Danziger

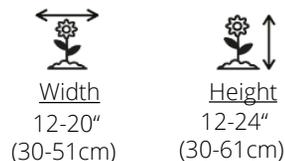
2026 - 2027

 **DANZIGER**
IMAGINE MORE

AGLAONEMA

Propagation Tips

- A high humidity is suggested to keep leaves from falling during propagation 80-90%
- Cuttings should be sprayed to prevent Erwinia
- Temp. high temperature of 77°-86°F to speed rooting (25°-30°C)
- Calcium sprays are useful for increasing leaf thickness and strength
- IBA rate of 500ppm suggested to encourage rooting



Average Time	Temperature	Radiation	Humidity Level	Fungicide
6 weeks	Weeks 1-2 77°-86°F (25°-30°C)	1000-2500 fc	80-90%	Spray fungicide to control Botrytis and bacteria day of sticking

Irrigation specification – Keep humidity high to maintain leaf turgidity, But avoid leaves staying wet, as this can lead to spotting

Too much light causes upright growth and pale leaves

Rooting	pH	EC	Temp	Feed	Light (fc)	Fungicide	Comments
Week 1	5.8 to 6.0	0.8	77°-86°F (25°-30°C)	50 ppm N in mist	1000-2000	Day of sticking	Erwinia
Week 2	5.8 to 6.0	0.8 to 0.9	77°-86°F (25°-30°C)	50 ppm N in mist	1000-2000	Second fungicide app	Water Molds
Week 3	5.8 to 6.0	0.9 to 1.0	77°-86°F (25°-30°C)	Feed 100 ppm to 150 ppm	1000-2000		
Week 4 to TP	5.8 to 6.0	1.0 to 1.2	77°-86°F (25°-30°C)	feed 150 to 200 ppm	1000-2500		

Finishing tips

- A relatively high level of humidity is required, 50-70% for optimal growth
- Radiation – 1500-2500 fc is ideal, but intensity can go up to 3500fc
- If the light intensity is too high, then the leaves will become paler
- Despite their slow rate of growth, Aglaonema requires higher rates of fertilizer. Try to maintain EC between 1.5 and 2.0
- Calcium sprays are suggested to maintain leaf strength
- Aglaonema are monocots and sensitive to fluoride and chloride tip burn. pH can be raised to help prevent damage

Average Time (from liners)	Temperature	Pinch/ Day Length Modification	Fertility	Plant Growth Regulator
24 to 30 wks 3 plants per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Not Required	Soil EC 1.5–2.0 pH 5.5 to 6.5	
30 to 40 wks 3 plants per 8" pot (20 cm)				

Pests	Diseases	Prevention
Mealybugs	Erwinia	Moisture control is best prevention Group 1 Fungicides
Aphids	Water Molds	
	Fusarium	

Finishing	pH	EC	Temp	Feed	Light	Fungicide	Comments
Transplant to Finish	5.5-6.5	1.5-2.0	70°-85°F (21°-29°C)	Feed 150-200 ppm	1500-3500 fc	Drench to prevent water molds	
			Min of 60°F (15°C)			Watch for Erwinia	Moisture control is best Erwinia Prevention

APHELANDRA

Propagation Tips

- IBA spray of 100ppm is beneficial to speed rooting
- Radiation – 1000-2500fc
- Media – an aerated media
- Flowers should be manually removed if occurring in propagation



Width

6-10"
(15-25 cm)



Height

8-12"
(20-30.5cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
4 to 6 weeks	70°-80°F (21°-26.7°C)	1500fc	50-70%	Spray fungicide to control Botrytis and bacteria day of sticking
	Maintain above 60°F (15.5°C)			

 **Irrigation specification** - Remove from mist as soon as possible

 **Light** - Levels above 3000fc can result in deformed leaves of Dania

Rooting	pH	EC	Temp	Feed	PGR	Fungicide
Week 1	5.5 to 6.0	0.8	75°F 24 °C	50 ppm N in mist		Day of sticking
Week 2	5.5 to 6.0	0.8 to 0.9	75°F 24 °C	50 ppm N in mist		Second fungicide app
Week 3	5.5 to 6.0	0.9 to 1.0	75°F 24 °C	Feed 100 ppm to 150 ppm		
Week 4	5.5 to 6.0	1.0 to 1.2	75°F 24 °C	feed 100 to 150 ppm	A-rest 0.5mg a.i. if stretch occurs	

Finishing Tips

- The most important aspects of Aphelandra Production are light and moisture control
- Blanca Nieves is much more sensitive to high light than Dania, and care should be taken during the summer Production to avoid deformed leaves
- If plants are allowed to dry down, then leaf drop is likely to occur
- Temperatures below 60°F (15.5°C) result in deformed leaves

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
10 to 12 wks 1 plant per 5" pot (12 cm)	Average Day 70°-80°F (21°-26.7°C) Avoid temperatures below 60°F	Pinch – Can be pinched if plants become stretched night interruption or extended day-Not Needed	Soil EC 1.5-2.0 pH 5.5 to 6.0	A-rest at 0.5 mg a.i.
12 to 14 wks 1 plant per 6½" pot (15 cm)			Leaf drop can occur if EC becomes too high	

Pests	Aphids	Avoid Spirotetramat due to risk of Phytotoxicity
	Fungus Gnats	Bacillus thuringiensis or Azadiracthin
Diseases	Botrytis	Group 7/11
	Phytophthora	Group 4
	Pythium	Group 4

Finishing	pH	EC	Temp	Feed	Light	Fungicide
	5.7 to 6.0	1.0 to 1.2	70°-80°F (21°-26.7°C)	feed 100 to 150 ppm	Day Neutral	Spray fungicide after transplant

ASARUM

Propagation Tips

- Stick on priority – Number 3 out of 4 categories

Average Time	Temperature	Hormone	Fertilization	Fungicide
4 weeks	Weeks 1-2 70°-72°F (21°-22°C)	Optional	Weeks 1-2 50 ppm N	Spray fungicide to control Botrytis and bacteria day of sticking
	Weeks 3-4 68°-70°F (20°-21°C)		Weeks 3-5 100 to 150 ppm N	Apply broad spectrum Week 2



- **Misting specification**-Remove from the mist as soon as possible
- Spray adjuvant at sticking



- Pinching is not needed

Rooting	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 1	5.8-6.2	0.8	70°-72°F (21°-22°C)	50 ppm N in mist	Not required		Day of sticking
Week 2	5.8-6.2	0.8-0.9	70°-72°F (21°-22°C)	50 ppm N in mist	Not required		Second fungicide app
Week 3	5.8-6.2	0.9-1.0	66°-68°F (19°-20°C)	Feed 100 ppm to 150 ppm	Not required		
Week 4	5.8-6.2	0.9-1.0	66°-68°F (19°-20°C)	Feed 100 ppm to 150 ppm	Not required	Not required	

Finishing Tips

- Quality improves when finished with cool temperatures
- Will flower second year around week 8
- Needs outdoor cold temperatures in order to flower

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
7 to 8 wks 1 plant per 5" pot (12 cm)	Average Day 65°-68°F (18°-20°C)	No pinch necessary	100-150 ppm N	Not needed
8 to 9 wks 1 plant per 6½" pot (15 cm)		No lighting necessary	Soil EC 1.0-1.2 pH 5.5 to 6.0	
8 to 9 wks 3 plants per 8" pot (20 cm) 3 plants per container				
8 to 9 wks 3 plants per 10" pot (25 cm) 3 plants per container				



- Additional Iron (Fe) or Manganese (Mn) may be required depending on water quality and alkalinity
- Scout for Aphids and Thrips on a regular basis

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 6 Transplant	5.6-6.0	1.0-1.2	65°-68°F (18°-20°C)	feed 100-150 ppm	Day Neutral	Not needed	Spray fungicide after transplant
Week 6 to 12	5.6-6.0	1.0-1.2	59°-64°F (16°-18°C)	feed 100-150 ppm	Not Required		

Pests	Aphids	ACETAMIPRID, FLONICAMID, IMIDACLOPRID, DICHLORVOS
	Thrips	METHIOCARB, ACRINATHRIN, ABAMECTIN, DICHLORVOS, SPINOSAD
Diseases	Botrytis	CYPRODINIL+FLUDIOXONIL, IPRODIONE, POLYOXIN
	Pythium Phytophthora	PROPAMOCARB / MEFENOXAM
	Rhizoctonia	AZOXYSTRONBIN / ETRIDIAZOLE / FLUDIOXONIL / PCNB

BEGONIA TROPICAL

Propagation Tips

- A relatively high level of humidity is required, 60-90% for optimal growth
- Best rooting success comes from ambient humidity being as high as possible, So minimal overhead mist is required
- Leaf cuttings need to be stuck so the leaf is in contact with the soil
- Leaf cuttings root out of the Axil
- Tip cuttings root out of the bottom of the stem
- Temperature - Ideal temperature for growth is between 70°-86°F (21°-30°C)
- Media – an aerated media



Width

10-20"
(25-50cm)



Height

10-24"
(25-61 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
6 to 8 weeks	Weeks 1-4 77°-86°F (25°-30°C)	60-70%	70-90%	Spray fungicide to control Botrytis and bacteria day of sticking
	Weeks 4-TP 70°-76°F (21°-24.4°C)	60-70%	60-80%	

Rooting	pH	EC	Temp	Feed	PGR	Fungicide
Week 1	5.8-6.0	0.8	72°-80°F (22°-26°C)	50 ppm N in mist		Day of sticking
Week 2	5.8-6.0	0.8-0.9	72°-80°F (22°-26°C)	50 ppm N in mist		Second fungicide app
Week 3	5.8-6.0	0.9-1.0	70°-75°F (21°-23°C)	Feed 100 ppm - 150 ppm		
Week 4 to TP	5.8-6.0	1.0-1.2	70°-75°F (21°-23°C)	feed 100 to 150 ppm	Daminozide as needed	

Finishing Tips

- A relatively high level of humidity is required, 50-70% for optimal growth
- Radiation – shading net of 500-1500 fc (in summer)
- Too intense light will stunt growth
- Optimal temperature of 77°-86°F (25°-30°C) is best
- Maculata and Pink spot can be pinched if stretch occurs

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
8 to 10 wks 1 plant per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C) Temperature is the primary factor driving begonia growth	Night interruption or extended day- Not needed	Soil EC 1.0-2.0 pH 5.5 to 6.0	2500 B9 to slow growth if needed
10 to 14 wks 3 plants per 8" pot (20 cm)			Soil EC 1.0-1.2 pH 5.8 to 6.2	

Pests	Aphids	Grower Choice
	Spider Mites	Grower Choice
Diseases	Pythium	Group 4
	Phytophthora	Group 4
	Powdery Mildew	Group 3

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide
Summer and Winter	5.8-6.2	1.0-2.0	77°-86°F (25°-30°C)	feed 100-150 ppm	Day Neutral	2500B9 to hold	Spray fungicide after transplant

CHLOROPHYTUM

Propagation Tips

- Stick on priority – Number 3 out of 4 categories

Average Time	Temperature	Hormone	Fertilization	Fungicide
4 weeks	Weeks 1-2 70°-72°F (21°-22°C)	Optional	Weeks 1-2 50 ppm N	Spray fungicide to control Botrytis and bacteria day of sticking
	Weeks 3-4 68°-70°F (20°-21°C)		Weeks 3-5 100 to 150 ppm N	Apply a broad spectrum in Week 2

Rooting	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 1	5.8-6.2	0.8	70°-72°F (21°-22°C)	50 ppm N in mist	Not Required		Day of sticking
Week 2	5.8-6.2	0.8-0.9	70°-72°F (21°-22°C)	50 ppm N in mist	Not Required		Second fungicide app
Week 3	5.8-6.2	0.9-1.0	66°-68° (19°-20°C)	Feed 100 ppm to 150 ppm	Not Required		
Week 4	5.8-6.2	0.9-1.0	66°-68° (19°-20°C)	Feed 100 to 150 ppm	Not Required	Not Required	

Finishing tips

- Radiation - Plants can handle higher light intensities but must be properly adjusted. If the average intensity increases more than 1000fc within one-week, red burning can occur
- Burn from light appears as red streaks on white variegation
- Burn from fluoride or chloride appears on the tips of leaves
- Optimal temperature of 70°-80°F (21°-26.7°C) is best

Average Time (Direct Stick)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
10 wks 1 plant per 5" pot (12 cm)	Average Day 70°-80°F (21°-26.7°C)	Long days encourage upright growth. Short days result in downward leaves	Soil EC 1.5-2.0 pH 5.5 to 6.0	Moisture Management is the best PGR for spiders
12 wks 5 plants per 8" pot (20 cm)			pH can be raised to reduce fluoride toxicity	

Pests	Spider Mites	Low risk of phytotoxicity to various Products
	Aphids	Low risk of phytotoxicity to various Products
Diseases	Pythium	Spider Plants rarely develop disease
	Tip Burn	Fluoride Toxicity
	Margin Burn	Light is too intense

Finishing	pH	EC	Temp	Feed	Light	PGR	Comments
Direct Stick Week 1 to 4	5.7 to 6.0	1.0 to 1.2	70°-75°F (21°-24°C)	feed 100-150 ppm		Sprencn with KIBA at 100ppm	Mist occasionally to help rooting
Week 5 to Finish	5.7 to 6.0	1.5 to 2.0	75°-80°F (24°-27°C)	feed 100-150 ppm	Not Required		

CORDYLINE

Propagation Tips

- Maintain high humidity in propagation to keep leaves from falling
- Attempt to minimize overhead mist to reduce leaf spotting
- Preventatively spray for Leaf Spots in propagation.
Daconil, Group 3 (Eagle), and 7/11 (Mural, Pageant, etc.) make a good preventative rotation.
- Temp. Try to maintain the root zone temperature of at least 75°F (24°C) during rooting
- Media—an aerated media
- Number of cuttings per pot—1 cutting for 4 inches and 3 cuttings for 6 inches and above



Flowering time

N/A



Width

10-24"
(25-61cm)



Height

12-36"
(30-91cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
6 weeks	Weeks 1-2 77°-86°F (25°-30°C)	3500 fc	50-70%	Spray fungicide to control leaf spot day of sticking

Rooting	pH	EC	Temp	Feed	Light	Fungicide	Comments
Week 1	5.8-6.0	0.8	72°-74°F (25°-30°C)	50 ppm N in mist	2500 Fc	Day of sticking	Leaf Spot/Bacteria
Week 2	5.8-6.0	0.8-0.9	72°-74°F (25°-30°C)	50 ppm N in mist	2500 Fc	Second fungicide app	Leaf Spot, Different FRAC
Week 3	5.8-6.0	0.9-1.0	72°-74°F (25°-30°C)	Feed 100 - 150 ppm	3000 Fc		
Week 4 to TP	5.8-6.0	1.0-1.2	72°-74°F (22°-23.5°C)	Feed 100 - 150 ppm	3500 Fc		

Finishing tips

- Cordyline is sensitive to Fluoride and Chloride tip burn. Use water with low levels of Fluoride or raise the pH of the media above 6.3 to reduce severity.
- Radiation – 3500 fc is ideal for Cordyline Production. Lower light levels lead to decreased leaf coloration.
- Color will also be decreased if night temperatures are too high. (Above 85°F, 29.4°C)
- Optimal temperature of 77°-86°F° (25°-30°C) is best, but can be grown at temperatures ranging from 65°F to 95°F (18.3°-35°C)
- Regularly scout and preventatively spray for Spider Mites and Broad Mites
- Coffee Compacta and Chocolate Queen varieties make good options for small pot Production

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility
7 to 8 wks 3 plants per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Night interruption or extended day-Not needed	Soil EC 1.5–2.0 pH 5.5 to 6.5
8 to 10 wks 3 plants per 6½" pot (15 cm)	Finishing with lower temperature can increase color		Increase pH to reduce tip burn from Fluoride

Pests	Spider Mites	Hide on underside center of leaves. Grower Choice for Spray
	Mealybugs	Grower Choice
Diseases	Leaf Spots	Phyllosticta, Fusarium, Phytophthora
	Erwinia	Moisture control is best prevention
	Southern Blight	Azoxystrobin

pH	EC	Temp	Feed	Light	Fungicide	Comments
5.5 to 6.5	1.5 to 2.0	70°-80°F (21°-26.7°C)	feed 100 to 150 ppm	Day Neutral	Spray fungicide after transplant	Leaf spot is most likely to occur in propagation. Avoid leaves being wet at night

CTENANTHE

Propagation Tips

- A relatively high level of humidity is required-60-80% for optimal growth
- Radiation - 500 to 1500 fc
- Temp. 70°-80°F (21°-26.7°C) is ideal
- Media - an aerated media
- Sensitive to Fluoride and Chloride Tip Burn



Width

8-20"
(20-51 cm)



Height

14-30"
(36-76 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
6 weeks	70°-80°F (21°-26.7°C)	1000 fc	60-80%	Spray fungicide to control Botrytis and bacteria day of sticking

Irrigation specification – Avoid excess moisture going into the night to avoid leaf spotting

Rooting	pH	EC	Temp	Feed	Light	Fungicide	Comments
Week 1	5.5-6.5	0.8	75°F (24°C)	50 ppm N in mist	500fc	Day of sticking	Bacteria
Week 2	5.5-6.5	0.8-0.9	72°-74°F (22°-23°C)	50 ppm N in mist	500fc	Second fungicide app	Leaf Spot
Week 3	5.5-6.5	0.9-1.0	72°-74°F (22°-23°C)	50ppm N in mist	750fc		
Week 4 to TP	5.5-6.5	1.0-1.2		feed 100 to 150 ppm	1000fc		

Finishing tips

- A relatively high level of humidity is required, 50-70% for optimal growth
- Radiation - 1000 to 1500 fc. Growing in lower conditions reduces the chance of stress and results in better crops for the consumer
- Optimal temperature of 77°-86°F (25-30°C) is best
- Ctenanthe is sensitive to Fluoride tip burn.
Avoid using water containing fluoride and maintain a higher pH to reduce uptake
- Avoid fertilizer resting on leaves, as this can lead to spotting
- Maintain moisture at a 3 or 4 out of 5. Dry down will result in leaf burn
- Less than ideal growing conditions, especially improper temperature and fertility, will result in leaf burn on Ctenanthe

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
12 wks 1 plant per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Not Needed	Soil EC 1.0-1.5 pH 5.5 to 6.0	Not needed
14 to 16 wks 1 plant per 6½" pot (15 cm)	Avoid below 50°F (10°C)		pH can be raised to reduce risk of Fluoride toxicity	

Pests	Spider Mites	Avoid Chlorfenapyr due to risk of phytotoxicity
	Mealy Bugs	Avoid Spirotetramat due to risk of Phytotoxicity
Diseases	Botrytis	Chlorothalonil
	Pythium	Mefenoxam

Finishing	pH	EC	Temp	Feed	Light	PGR
Week 1 to 10	5.7 to 6.0	1.0 to 1.2	65°-68°F (18°-20°C)	feed 100 ppm	Day Neutral	Not Required
Week 10 to finish	5.7 to 6.5	1.0 to 1.2	65°-68°F (18°-20°C)	feed 100 to 125 ppm	Not Required	Not Required

DIEFFENBACHIA

Propagation Tips

- Keep ambient humidity high to maintain leaf turgidity. Avoid excess moisture resting on leaves
- Radiation - shading net of 80% (in summer), 1,500 to 3,000 fc is ideal
- Media - an aerated media
- Temp. - Can grow in a wide range, but 75°-80°F (24°-26.7°C) is ideal for propagation
- IBA rate of 500ppm suggested to encourage rooting



Width

10-24"
(25-61 cm)



Height

20-48"
(51-117 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
6 weeks	75°-80°F (24°-26.7°C)	1500 fc	50-70%	Copper fungicide for bacteria prevention
	Avoid temps below 60°F (15.5°C)	Above 3000fc can result in burn		Moisture control is also important

Rooting	pH	EC	Temp	Feed	Light	Fungicide	Comments
Week 1	5.5-6.0	0.8	75°F (24°C)	50 ppm N in mist	1000fc	Day of sticking	Chlorothalonil/ Copper
Week 2	5.5-6.0	0.8-0.9	75°F (24°C)	50 ppm N in mist	1500fc	Second fungicide app	Group 7/11
Week 3	5.5-6.0	0.9-1.0	75°F (24°C)	Feed 100 ppm to 150 ppm	1500fc		
Week 4 to TP	5.5-6.0	1.0-1.2	75°F (24°C)	feed 100 to 150 ppm	2000fc		

Finishing tips

- Plant in aerated media to avoid excess moisture. Dieffenbachia prefers to be grown in drier conditions rather than wetter ones. (3 out of 5 on the moisture scale)
- Radiation -1500fc to 3500fc results in best quality
- Optimal temperature of 75°-80°F (24°-26.7°C) is best
- Crop is relatively carefree as long as moisture is properly controlled
- Preventative drench with Cyantraniliprole can help prevent aphids
- Excess salts result in downward curling leaves and leaf drop

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility
8 to 10 wks 1 plant per 5" pot (12 cm)	Average Day 75°-80°F (24°-26.7°C)	Pinch -Optional	Soil EC 1.0-1.5 pH 5.5 to 6.0
8 to 10 wks 3 plants per 6½" pot (15 cm)	Can grow in temperatures from 60°-95°F (15.5°-35°C)	Night interruption or extended day-Optional	Sensitive to high salts

Pests	Aphids	Cyantraniliprole Drench, Many spray options
	Mealy Bugs	Flupyradaifurone
Diseases	Erwinia	Avoiding too much moisture is best prevention
	Xanthomonas	Copper
	Fungal Leaf Spots	Group 3 Triazoles

Finishing	pH	EC	Temp	Feed	Light	Fungicide	Comments
Summer	5.5 to 6.0	1.0 to 1.5	Avoid above 95°F (35°C)	feed 100 to 150 ppm	Shade if above 3500fc	Copper	Increase humidity if temperatures are high
Winter	5.5 to 6.0	1.0 to 1.2	Avoid below 60°F (15.5°C)	feed 100 to 125 ppm	Supplement if below 1000fc	Copper	Avoid prolonged periods of media wetness

EPISCIA

Propagation Tips

- Unique foliage that produces petite pink flowers
- Easy to grow, requiring no plant growth regulators
- Shade item that works in both small pots and hanging baskets



Semi-Mounding,
Trailing



3-6"
(7.5-15 cm)



6-12"
(15-30 cm)

Stick on priority

- Number 1 out of 4 categories
- Open the box immediately, as Episcia are sensitive to ethylene

Average Time	Temperature	Hormone	Fertilization	Fungicide
5 weeks	Weeks 1-2 72°-74°F (22°-23°C)	Not required	Weeks 1-2 50 ppm N	Spray fungicide to control Botrytis and bacteria day of sticking
	Weeks 3-5 70°-72°F (21°-22°C)		Weeks 3-5 100 to 150 ppm N	Day of sticking & Week 2



- **Irrigation specification** - Remove from mist as soon as possible. Limit misting in propagation.
- Sensitive to cold water. Overhead watering with water under 50°F (10°C) can result in leaf damage



- Episcia have a fine root system, so the use of an Elle plug will reduce the risk of damage during transplanting
- Pinch is not needed. Plants are naturally branching
- Radiation levels between 1000 and 2000 footcandles are best

Rooting	pH	EC	Temp	Feed	Fungicide	Comments
Week 1	5.5-5.8	0.8	72°-74°F (22°-23°C)	50 ppm N in mist	Day of sticking	Feeding through Mist
Week 2	5.5-5.8	0.8-0.9	72°-74°F (22°-23°C)	50 ppm N in mist	Second fungicide app	
Week 3	5.5-5.8	0.9-1.0	72°-74°F (22°-23°C)	Feed 100 ppm		If callused remove from Mist
Week 4	5.5-5.8	1.0-1.2	70°-72°F (21°-22°C)	Feed 100 ppm		
Week 5	5.5-5.8	1.0-1.2	70°-72°F (21°-22°C)	Feed 100 ppm		

Finishing Tips

- Growth is mostly dependent on warm temperatures and keeping plants well irrigated
- Episcia are sensitive to high radiation, and light levels above 2000 footcandles can slow growth

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertilization	Plant Growth Regulator
7 to 9 wks 3 plants per 5" container (12 cm)	Average Day 70°-72° (21°-22°C)	Pinch week 4 or at transplant	100-150 ppm N	Daminozide spray when plants have reached 85% finish size
8 to 10 wks 4 plants per 6½" container (15 cm)		No lighting necessary	Soil EC 1.0-1.2 pH 5.5 to 5.8	
10 to 14 wks 6 plants per 8" container (20 cm)				



- Avoid overhead watering with water temperatures below 50°F (10°C)
- Flowering is not daylength-related and more likely to occur under warm temperatures
- Botrytis and Rhizoctonia - fungicide drench after transplant to control root and stem diseases

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 1 to 6	5.5-5.8	1.0-1.2	70°-72°F (21°-22°C)	feed 100 - 150 ppm	Prefers long days	Daminozide as needed	Drench Fungicide after transplant
Week 6 to finish	5.6-6.0	1.0-1.2	Keep above 60°F (15.5°C)	feed 100 - 150 ppm			

Pests	Aphids	ACETAMIPRID, FLONICAMID, IMIDACLOPRID, DICHLORVOS
	Thrips	METHIOCARB, ACRINATHRIN, ABAMECTIN, DICHLORVOS, SPINOSAD
	Whiteflies	PYMETROZINE, PYRIPROXYFEN, PYRIFLUQUINAZON
Diseases	Botrytis	CYPRODINIL+FLUDIOXONIL, IPRDIONE, POLYOXIN
	Pythium	PROPAMOCARB
	Phytophthora	PROPAMOCARB

FITTONIA

Propagation Tips

- A relatively high level of humidity is preferred, 60-80% for optimal growth
- Too much light will stunt the plant and increase rooting time
- Low rates of IBA (100 ppm) can be beneficial to speed rooting



Width

6-12"
(15-30 cm)



Height

3-8"
(7.5-8 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
4 to 6 weeks	Weeks 1-2 77°-86°F (25°-30°C)	60-70%	60-80%	Spray fungicide to control Botrytis and bacteria day of sticking
				Xanthomonas can occur if leaves are kept consistently wet

Irrigation specification – Fittonia prefers to be kept moist

Fittonia are sensitive to ethylene and should be stuck as soon as possible

Rooting	pH	EC	Temp	Feed	Light	Fungicide
Week 1	5.8-6.0	0.8	77°F (25°C)	50 ppm N in mist	500-1500	Day of sticking
Week 2	5.8-6.0	0.8-0.9	77°F (25°C)	50 ppm N in mist	500-1500	Second fungicide app
Week 3	5.8-6.0	0.9-1.0	77°F (25°C)	Feed 100 ppm to 125 ppm	500-2000	
Week 4 to TP	5.8-6.0	1.0-1.2	77°F (25°C)	feed 100 to 125 ppm	500-2500	

Finishing Tips

- A relatively high level of humidity is required-50-70% for optimal growth
- Radiation– Too intense light will stunt growth
- Optimal temperature of 70°-86°F (25°-30°C) is best
- Temperatures below 70°F (25°C) greatly increase crop time
- Too high temperatures ,Above 90°F (32°C), will reduce color

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
8 wks 5 plants per 4" (10 cm) pot	Average Day 70°-75°F (21.1°-24°C)	Pinch –Not needed Night interruption or extended day- Optional	Soil EC 1.0-1.5 pH 5.5 to 6.0	10ppm Fascination spray can be used if plants are stunted from too much light. Rates should be trialed
10 wks 5 plants per 5" (12cm) pot	Avoid below 60°F (15.5°C)		Soil EC 1.0-1.5 pH 5.5 to 6.0	

Pests	Aphids	Growers Choice
	Fungus Gnats	Bti or Azadirachtin
Diseases	Rhizoctonia	Group 12
	Xanthomonas	Copper

Finishing	pH	EC	Temp	Feed	Light	PGR	Comments
4" Pot (10 cm)	5.5 to 6.0	1.0 to 1.5	70°-75°F (21.1°-24°C)	feed 100 to 150 ppm	1500 fc	Fascination if stunting occurs	Keep moist to speed growth

IVY (HEDERA)

Propagation Tips

- Cuttings can be double-or triple-stuck into 50 or 72 cells to increase the fullness of the finished pot
- Radiation –1500 to 2500 fc in propagation
- Temp. - high temperature of 77°-86°F (25°-30°C) speeds rooting
- Media – an aerated media
- Sprench of 100 ppm KIBA speeds rooting
- Cuttings can be dipped in 26 oz/100 gallons of Quaternary ammonium to reduce the risk of bacterial leaf spots during rooting



Average Time	Temperature	Radiation	Humidity Level	Fungicide
5 weeks	77°-86°F (25°-30°C)	60-70%	50-70%	Spray fungicide to control Botrytis and bacteria day of sticking

Irrigation- Remove from mist as soon as possible to reduce the specification chance of bacterial leaf spot

Rooting	pH	EC	Temp	Feed	Fungicide
Week 1	5.8-6.0	0.8	77°F (25°C)	50 ppm N in mist	Day of sticking
Week 2	5.8-6.0	0.8-0.9	77°F (25°C)	50 ppm N in mist	Second fungicide app
Week 3	5.8-6.0	0.9-1.0	77°F (25°C)	Feed 100 ppm to 150 ppm	
Week 4	5.8-6.0	1.0-1.2	77°F (25°C)	feed 100 to 150 ppm	

Finishing Tips

- The biggest issue during the production of Hedera is spider mites and broad mites
- Excess moisture and humidity will result in bacterial leaf spots. Reduce the risk of splashing water if BLS is present
- Radiation – shading net of 1500 to 3000 fc
- Levels below 1000 fc can result in loss of variegation
- Optimal temperature of 77°-86°F (25-30°C) is best
- Pinch is optional but will increase branching

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
7 to 8 wks 3 plants per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Pinch-Optional to increase branching	Soil EC 1.0-1.2 pH 5.5 to 6.0	2500 Daminozide+500 Ethepon to increase branching and reduce internode length
12 to 14 wks 5 plants per 8" container (20 cm)	Temp can be reduced to 60°F (15.5°C) to slow growth		Soil EC 1.0-2.0 pH 5.5 to 6.0	

Pests	Spider Mites	Begin rotation early in Production to reduce pressure
	Broad Mites	
Diseases	Bacterial Leaf Spot	Reduce moisture on leaves. Copper Sprays
	Rhizoctonia	
	Botrytis	Group 7/11

MARANTA

Propagation Tips

- A relatively high level of humidity is required, 60-80% for optimal growth
- Radiation-500 to 1500 fc
- Temp. 70°-80°F (21°-26.7°C) is ideal
- Media – an aerated media
- Sensitive to Fluoride and Chloride tip burn

	
<u>Width</u>	<u>Height</u>
14"-30" (36-76 cm)	8"-20" (20-51 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
6 weeks	70°-80°F (21°-26.7°C)	1000 fc	60-80%	Spray fungicide to control Botrytis and bacteria day of sticking

 **Irrigation specification**– Avoid excess moisture going into night to avoid leaf spotting

Rooting	pH	EC	Temp	Feed	Light	Fungicide	Comments
Week 1	5.5-6.5	0.8	75°F (24°C)	50 ppm N in mist	500fc	Day of sticking	Bacteria
Week 2	5.5-6.5	0.8-0.9	72°-74°F (22°-23°C)	50 ppm N in mist	500fc	Second fungicide app	Leaf Spot
Week 3	5.5-6.5	0.9-1.0	72°-74°F (22°-23°C)	50 ppm N in mist	750fc		
Week 4 to TP	5.5-6.5	1.0-1.2		feed 100 to 150 ppm	1000fc		

Finishing Tips

- A relatively high level of humidity is required- 50-70% for optimal growth
- Radiation – 1000 to 1500 fc. Growing in lower conditions reduces the chance of stress and results in better crops for consumers
- Optimal temperature of 77°-86°F (25°-30°C) is best
- Maranta is sensitive to Fluoride tip burn. Avoid using water containing fluoride and maintain a higher pH to reduce uptake
- Avoid fertilizer resting on leaves, as this can lead to spotting
- Maintain moisture at a 3 or 4 out of 5. Dry down will result in leaf burn

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
12 wks 1 plant per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Not Needed	Soil EC 1.0-1.5 pH 5.5 to 6.0	Not needed
16 to 20 wks 3 plants per 8" pot (20 cm)	Avoid below 50°F (10°C)		pH can be raised to reduce risk of Fluoride toxicity	

Pests	Spider Mites	Avoid Chlorfenapyr due to risk of phytotoxicity
	Mealy Bugs	Avoid Spirotetramat due to risk of Phytotoxicity
Diseases	Botrytis	Chlorothalonil
	Pythium	Mefenoxam

Finishing	pH	EC	Temp	Feed	Light	PGR
Week 1 to 10	5.7-6.0	1.0-1.2	65°-68°F (18°-20°C)	feed 100 ppm	Day Neutral	Not Required
Week 10 to finish	5.7-6.5	1.0-1.2	65°-68°F (18°-20°C)	feed 100 to 125 ppm	Not Required	Not Required

MONSTERA

Propagation Tips

- Stick on priority - Number 1 out of 4 categories.
- If unable to stick immediately, open the box to prevent Ethylene damage

Average Time	Temperature	Hormone	Fertilization	Fungicide
8 weeks	Weeks 1-2 77°-86°F (25°-30°C)	1000ppm KIBA	Weeks 1-2 50 ppm N	Spray fungicide to control Botrytis and bacteria day of sticking
	Weeks 3-5 72°-74°F (22°-23°C)		Weeks 3-5 100 to 150 ppm N	Fungicide Day of sticking & Week 3 or 4

- 
 - **Irrigation specification** – Maintain high humidity to ensure leaves remain turgid and do not fall
 - Sensitive to cold water. Overhead watering with water under 50°F (10°C) can result in leaf damage
- 
 - Application of K-IBA will hasten rooting. Maintain warm temperatures in propagation
 - When rooting cuttings in media, place them close enough to stay upright, but far enough apart to avoid overlapping
 - For rooting in both media and water, make sure that the root node is covered
 - Keep light levels above 1000 footcandles and below 3000 footcandles during propagation

Rooting	pH	EC	Temp	Feed	Fungicide	Comments
Week 1	5.5-5.8	0.8	77°-86°F (25°-30°C)	50 ppm N in mist	Day of sticking	Feeding through Mist
Week 2	5.5-5.8	0.8-0.9	77°-86°F (25°-30°C)	50 ppm N in mist		
Week 3	5.5-5.8	0.9-1.0	77°-86°F (25°-30°C)	Feed 100 ppm	Second fungicide app	
Week 4	5.5-5.8	1.0-1.2	77°-86°F (25°-30°C)	Feed 100 ppm		If callused remove from mist
Week 4 through 8	5.5-5.8	1.0-1.2	77°-86°F (25°-30°C)	Feed 100 ppm		

Finishing Tips

- Humidity ranging from 50-70% is preferred for optimal growth
- Too much Nitrogen can result in oversized and thin leaves
- Too intense light will cause browning on leaves. The optimal light intensity is 1500-3500 ft candles

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertilization	Plant Growth Regulator
14 wks 1 plant per 6" pot (15 cm)	Average Day 70°-86°F (21°-30°C) The rate of growth is primarily determined by temperature	Day Neutral	100-150 ppm N	Not recommended
14 to 18 wks 1 plant per 8" pot (20 cm)			Soil EC 1.0-1.2 pH 5.5 to 5.8	
18 to 24 wks 1 plant per 12" pot (30 cm)				



- Timing can vary greatly based on temperature, humidity, and light
- Finishing time is based on a finished plant with four fully fenestrated leaves
- Calcium sprays are helpful in maintaining leaf strength

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 1 to 8	5.5-5.8	1.0-1.2	70°-86°F (21°-30°C)	feed 100 to 150 ppm	Day Neutral	Not recommended	Drench fungicide after transplant
Week 8 to finish	5.6-6.0	1.0-1.2	Minimum 65°F (18°C)	feed 100 to 150 ppm			

Pests	Aphids	ACETAMIPRID, FLONICAMID, IMIDACLOPRID, DICHLORVOS
	Thrips	METHIOCARB, ACRINATHRIN, ABAMECTIN, DICHLORVOS, SPINOSAD
	Whiteflies	PYMETROZINE, PYRIPROXYFEN, PYRIFLUQUINAZON
Diseases	Botrytis	CYPRODINIL+FLUDIOXONIL, IPRDIONE, POLYOXIN
	Pythium	PROPAMOCARB
	Phytophthora	PROPAMOCARB

NEMATANTHUS GREGARIUS

Propagation Tips

- Stick on priority – Number 3 out of 4 categories

Average Time	Temperature	Hormone	Fertilization	Fungicide
5 weeks	Weeks 1-3 72°-74°F (22°-23°C)	Suggested	Weeks 1-2 50 ppm N	Spray fungicide to control Botrytis and bacteria day of sticking
	Weeks 4-5 70°-72°F (21°-22°C)		Weeks 3-5 100 to 150 ppm N	Day of sticking & Week 2

 **Irrigation specification** - Remove from mist as soon as possible. Limit misting in propagation. Sensitive to cold water. Overhead watering with water under 50°F (10 °C) can result in leaf damage.

 Application of K-IBA can hasten rooting. Maintain warm temperatures in propagation. Pinching before transplant results in a better finished product.

Rooting	pH	EC	Temp	Feed	Fungicide	Comments
Week 1	5.5 to 5.8	0.8	72°-74°F (22°-23°C)	50 ppm N in mist	Day of sticking	Feeding through Mist
Week 2	5.5 to 5.8	0.8 to 0.9	72°-74°F (22°-23°C)	50 ppm N in mist	Second fungicide app	
Week 3	5.5 to 5.8	0.9 to 1.0	72°-74°F (22°-23°C)	Feed 100 ppm		If callused remove from Mist
Week 4	5.5 to 5.8	1.0 to 1.2	70°-72°F (21°-22°C)	Feed 100 ppm		
Week 5	5.5 to 5.8	1.0 to 1.2	70°-72°F (21°-22°C)	Feed 100 ppm		Pinch

Finishing Tips

- Pinch is beneficial to increase rooting
- Nematanthus prefers long days and warm temperatures to flower

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
7 to 9 wks 3 plants per 5" container (12 cm)	Average Day 65°-68°F (18°-20°C)	Pinch week 4 or at transplant No lighting necessary	100-150 ppm N	Daminozide spray when plants have reached 85% finish size
8 to 10 wks 4 plants per 6½" container (15 cm)			Soil EC 1.0-1.2pH 5.5 to 5.8	
10 to 14 wks 6 plants per 8" container (20 cm)				

-  • Avoid overhead watering with cold water
- In addition to Thrips and Aphids, scout for Mealybugs, Spider Mites, and Whiteflies
- Botrytis and Rhizoctonia–fungicide drench after transplant to control root and stem diseases

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 6 Transplant	5.5 - 5.8	1.0-1.2	70°-72°F (21°-22°C)	feed 100-150 ppm	Prefers long days	Daminozide as needed	Drench fungicide after transplant
Week 6 to 14	5.6 - 6.0	1.0-1.2	68°-72° (20°-22°C)	feed 100-150 ppm			

Pests	Aphids	ACETAMIPRID, FLONICAMID, IMIDACLOPRID, DICHLORVOS
	Thrips	METHIOCARB, ACRINATHRIN, ABAMECTIN, DICHLORVOS, SPINOSAD
	Whiteflies	PYMETROZINE, PYRIPROXYFEN, PYRIFLUQUINAZON
Diseases	Botrytis	CYPRODINIL+FLUDIOXONIL, IPRODIONE, POLYOXIN
	Pythium	PROPAMOCARB
	Phytophthora	PROPAMOCARB

PEPEROMIA CAPERTA & SANDIA

Propagation Tips

- Can be rooted with minimal mist, but don't allow it to dry out completely
- Radiation – 1,000 to 2,000 fc
- Temp. 65°-85°F (18°-29°C). Cold Damage under 50°F (10°C)
- Media – an aerated media
- Number of cuttings per 50-cell or 72-cell-1 cutting

	
<u>Width</u>	<u>Height</u>
4-10" (10-25 cm)	6-12" (15-30 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
4-6 weeks for tip cuttings	65°-85°F (18°-29°C)	1000-2,000 fc	50-70%	Spray fungicide to control fungal and bacterial leaf spots
6-8 weeks for leaf cuttings				

 **Irrigation specification**-Remove from mist as soon as possible. Do not allow the medium to dry out fully

 Too much overhead mist can result in leaf spot. Preventative sprays of fungicide in propagation are suggested

Rooting	pH	EC	Temp	Feed	Fungicide
Week 1	5.6 to 6.5	0.8	72°-74°F (22°-23°C)	50 ppm N in mist	Day of sticking
Week 2	5.6 to 6.5	0.8 to 0.9	72°-74°F (22°-23°C)	50 ppm N in mist	Second fungicide app
Week 3	5.6 to 6.5	0.8 to 1.0	70°-74°F (21°-23°C)	Feed 100 ppm to 125 ppm	
Week 4	5.6 to 6.5	0.8 to 1.2	70°-74°F (21°-23°C)	feed 100 to 125 ppm	

Finishing Tips

- Grow on the dry side while avoiding full dry down. Maintain moisture for 2 to 3
- Radiation-shading net of 60-70% (in summer)
- Optimal temperature of 77°-86°F (25°-30°C) is the best
- If flowering occurs, it is suggested to manually remove. Florel has not been shown to be effective

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
8 to 12 wks 1 plant per 4" pot (12 cm)	Average Day 70°-76°F (21°-24°C)	Day Neutral	Soil EC 0.8-1.2 pH 5.5 to 6.2	Florel rates up to 1000ppm have been trialed and had no effect

- Sensitive to high salts
- Peperomia Caperta comes as leaf cuttings, and new growth comes from the bottom of the stem
- Maintain good airflow and allow plants to dry before nightfall to avoid Edema
- Avoid temperatures below 50°F (10°C)

	Broad Mites, Cyclamen Mites	Growers Choice
	Thrips	Growers Choice
Diseases	Leaf Spots	Phyllostica, Cercospora, Rhizoctonia
	Root Rots	Pythium and Phytophthora

Finishing	pH	EC	Temp.	Feed	Light	Fungicide	Comments
	5.5 to 6.2	0.8 to 1.2	65°-85°F (18.3°-29°C)	Feed 100-120 ppm	Day Neutral	Spray or Drench fungicide after transplant	Root and Stem rot can Occur if kept too wet after transplant

PEPEROMIA OBTUSIFOLIA & POLYBOTRYA

Propagation Tips

- Can be rooted with minimal mist, but don't allow it to fully dry out
- Radiation – 1,000 to 2,000 fc
- Temp. 65°-85°F (18°-29°C). Cold Damage under 50°F (10°C)
- Media – an aerated media
- Number of cuttings per cell: 50 or 72 cells–1 cutting



Average Time	Temperature	Radiation	Humidity Level	Fungicide
4-6 weeks for tip cuttings	65°-85°F (18°-29°C)	1000-2,000 fc	50-70%	Spray fungicide to control fungal and bacterial leaf spots



Irrigation specification - Remove from mist as soon as possible. Do not allow the medium to fully dry out



Too much overhead mist can result in leaf spots. Preventative sprays of a group 7/11 fungicide in propagation are suggested. Follow up with group 3

Rooting	pH	EC	Temp	Feed	Fungicide	Comments
Week 1	5.6-6.5	0.8	72°-74°F (22°-23°)	50 ppm N in mist	Day of sticking	Daconil or group 7/11
Week 2	5.6-6.5	0.8-0.9	72°-74°F (22°-23°)	50 ppm N in mist	Second fungicide app	Group 3
Week 3	5.6-6.5	0.8-1.0	70°-74°F (21°-23°)	Feed 100 ppm to 125 ppm		
Week 4- TP	5.6-6.5	0.8-1.2	70°-74°F (21°-23°)	feed 100 to 125 ppm		

Finishing Tips

- Grow on the dry side while avoiding full dry down. Maintain moisture for 2 to 3
- Radiation – shading net of 60-70% (in summer)
- Optimal temperature of 72°-80°F (22°-27°C) is the best
- If flowering occurs, it is suggested to manually remove. Florel has not been shown to be effective
- Peperomia polybotrya Raindrop is a faster variety

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
8-12 wks Direct stick 3 plants per 4" pot (12 cm)	Average Day 70°-76°F (21°-24°C)	Day Neutral	Soil EC 0.8-1.2 pH 5.5 to 6.2	Florel rates up to 1000ppm have been trialed and had no effect on flower removal
8-12 wks 3 plants per 8" pot (20 cm)				



- Sensitive to high salts
- Peperomia Obtusifolia can be pinched if excessive stretch occurs
- Maintain good airflow and allow plants to dry before nightfall to avoid Edema
- Avoid temperatures below 50°F (10°C)

Pests	Broad Mites, Cyclamen Mites	Growers Choice
	Thrips	Growers Choice
Diseases	Leaf Spots	Phyllostica, Cercospora, Rhizoctonia Group 3 or 7/11 FRAC
	Root Rots	Pythium and Phytophthora. Group 4 FRAC

Finishing	pH	EC	Temp.	Feed	Light	Fungicide	Comments
	5.5-6.2	0.8-1.2	77°-86°F (25°-30°C)	feed 100-120 ppm	Day Neutral	Spray or Drench fungicide after transplant	Root and Stem rot can occur if kept too wet after transplant

PHILODENDRON HEDERACEUM

Propagation Tips

- A relatively high level of humidity is required, 60-80 % for optimal growth
- Radiation – shading net of 70-80% (in summer)
- Temp.- high temperature of 77°-86°F (25°-30°C) encourages faster rooting
- Number of cuttings per cell – 1-2 cuttings
- Can be directly stuck into finished pots if the humidity is high



Average Time	Temperature	Radiation	Humidity Level	Fungicide
4 to 6 weeks	70°-90°F (21°-32°C)	70-80% 1000-3000 fc	60-80%	Spray fungicide to control Rhizoctonia and bacteria day of sticking. Do not apply Mefenoxan
	Minimum Temp. of 60°F (15.5°C)			

- **Irrigation specification** - Philodendron prefers slightly higher humidity than Pothos.
- The primary driver of the growth of Philodendron is temperature. Temperatures up to 86°F (30°C) will hasten Production time.
- Philodendron is sensitive to ethylene. Boxes should immediately be opened upon arrival, and cuttings should be stuck as soon as possible.

Rooting	pH	EC	Temp	Feed	PGR	Fungicide	Comments
Week 1	5.8 to 6.2	0.8 to 1.5	77°F (25°C)	50 ppm N in mist		Day of sticking	Avoid Mefonoxan and Iprodione
Week 2	5.8 to 6.2	0.8 to 1.5	77°F (25°C)	50 ppm N in mist		Second fungicide app	
Week 3	5.8 to 6.2	0.8 to 1.5	77°F (25°C)	Feed 100-150 ppm			
Week 4-6	5.8 to 6.2	1.0 to 1.5	77°F (25°C)	Feed 100-150 ppm	2500 Daminozide as needed to reduce leaf size		

Finishing Tips

- Radiation of 1000 to 3,500 fc is ideal
- The optimal temperature is 70°-90°F (21°-32°C). Temperature is the most important driver of growth.
- Sensitive to low pH, which results in Manganese toxicity. Identified by spotting on leaves
- Philodendron cordatum will finish 1 to 2 weeks faster than Brazil.
- Water early in the day to avoid moisture staying in the leaf sheath during the night. This can result in damaged leaves as they unfurl
- PGR- Spray Daminozide at 2500 to 5000 ppm to reduce the size of leaves and shorten vines
- If using Subdue Maxx ,be sure to read the label and use the suggested rate.
- Brown burns will appear on variegated areas of Brazil if the light intensity is too high

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
10 to 14 wks direct stuck 6 plants per 5" pot (12 cm)	Average Day 70°-90°F (21°-32°C)	Not required	Soil EC 1.5–2.0 pH 5.5 to 6.0	2500 to 5000ppm Daminozide reduces area of leaves
12 to 16 wks 10 plants per 8" pot (20 cm)	Minimum temperature of 55°F (12.8C)			

Pests	Mealy Bugs	Growers Choice
	Spider Mites	Growers Choice
Diseases	Rhizoctonia	Group 7/11
	Pythium	If using Subdue Maxx read label for special Philodendron rate
	Erwinia	Moisture management is best prevention

POTHOS EPIPREMNUM

Propagation Tips

- A relatively high level of humidity is required- 50-70% for optimal growth
- Radiation – shading net of 70-80% (in summer)
- Temp. - high temperature of 77°-86°F (25°-30°C) encourages faster rooting
- Number of cuttings per cell: 1-2 cuttings
- Can be stuck directly into finished pots if the humidity is high



Average Time	Temperature	Radiation	Humidity Level	Fungicide
4 to 6 weeks	70°-90°F (21°-32°C)	70-80% 1500-3000 fc	50-70%	Spray fungicide to control Rhizoctonia and bacteria day of sticking. Do not apply Mefenoxan or Iprodione
	Minimum Temperature of 60°F (15.5°C)	Neon is especially sensitive to high light		

- The primary driver of the growth of Pothos is temperature. Temp. up to 86°F (30°C) will hasten Production time. Pothos Neon is most susceptible to burn from too much light.

- Pothos are sensitive to ethylene. Upon arrival, boxes should be immediately opened, and cuttings should be stuck as soon as possible.

Rooting	pH	EC	Temp	Feed	PGR	Fungicide	Comments
Week 1	5.8-6.2	0.8-1.5	77°F (25°C)	50 ppm N in mist		Day of sticking	Avoid Mefenoxan and Iprodione
Week 2	5.8-6.2	0.8-1.5	77°F (25°C)	50 ppm N in mist		Second fungicide app	
Week 3	5.8-6.2	0.8-1.5	77°F (25°C)	100ppm-150ppm			
Week 4-6	5.8-6.2	1.0-1.5	77°F (25°C)	100ppm-150ppm	2500 Daminozide as needed to reduce leaf size		

Finishing Tips

- Radiation – of 1,500 to 3,500 fc is ideal
- Optimal temperature of 70°-90°F (21° -32°C) is best. Temperature is the most important driver for growth.
- Sensitive to low pH, which results in Manganese toxicity. Identified by spotting on leaves
- The fastest varieties of Pothos are Jade, Golden, and Hawaiian. Add 1 to 2 weeks to the Marble Queen schedule. Add 3 weeks for Neon
- Neon Pothos is especially sensitive to high light. As much shade as possible should be applied when producing Neon, especially in propagation.
- Low pH can result in Manganese toxicity. Appears as spotting on leaves
- Calcium sprays are beneficial in encouraging stronger leaves
- PGR – Spray Daminozide at 2500 to 5000 ppm to reduce the size of leaves and shorten vines
- If using Subdue Maxx, be sure to read the label and use the suggested rate. (0.3-0.38 fl oz per 100 gallons)
- Brown burns will appear on variegated areas of Pothos if the light intensity is too high

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
8 to12 wks direct stuck 6 plants per 5" pot (12 cm)	Average Day 70°-90°F (21°-32°C)	Not required	Soil EC 1.5–1.8 pH 5.5 to 6.0	2500 to 5000ppm Daminozide reduces area of leaves
10 to14 wks 10 plants per 8" pot (20 cm)	Minimum temperature of 55°F (12.8°C)			

Pests	Mealy Bugs	Growers Choice
	Spider Mites	Growers Choice
Diseases	Rhizoctonia	Do not use OHP Chipco 26019 as a soil drench on Pothos (From Label)
	Pythium	If using Subdue Maxx read label for special Pothos rate
	Pseudomonas	Copper

RHOEO



Width

Height

12-24"
(30-61cm)

12-24"
(30-61cm)

Propagation Tips

- Can be stuck directly. Lightly mist for the first few days to speed up rooting
- If using a tray, a 50 or 72-cell tray is suggested due to the thickness of stems and roots of Rhoeo
- Radiation – 2000 fc is ideal for propagation, but it can be grown in conditions ranging from 500 to 5000 fc.
- Temp. - high temperature of 77°-86°F (25°-30°C)
- Media - an aerated media
- When grown properly, Rhoeo has thick brown roots

Average Time	Temperature	Radiation	Humidity Level	Fungicide
4 weeks	77°-86°F (25°-30°C)	1500-2500fc	50-70%	Disease pressure is rare
In Liner	Avoid temps below 60°F (15.5°C)		Mist first few days	Pythium can occur if excessively wet

Rooting	pH	EC	Temp	Feed	Light	PGR	Fungicide
Week 1	5.8-6.0	0.8	77°F (25°C)	50 ppm N in mist			
Week 2	5.8-6.0	0.8-0.9	77°F (25°C)	50 ppm N in mist			
Week 3	5.8-6.0	0.9-1.0	77°F (25°C)	100 -150 ppm			
Week 4	5.8-6.0	1.0-1.2	77°F (25°C)	100 -150 ppm			

Finishing Tips

- Keep evenly moist. Moisture extremes can result in brown spots on leaves
- Radiation – Will grow in light ranging from 500 fc to 5000 fc.
- Bicolor will finish about one week earlier than Rhoeo
- Rhoeo can be susceptible to Alternanthera Mosaic Virus.
Symptoms appear similar to streaking from thrips
- Optimal temperature of 77°-86°F (25°-30°C) is best

Average Time (from liners)	Temperature	Pinch	Fertility	Plant Growth Regulator
7 to 8 wks 1 plant per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Pinch is not needed	Soil EC 1.0-1.5 pH 5.5 to 6.2	2500 Daminozide+ 500 ethephon spray or 0.1 to 0.3ppm Paclobutrazol drench (rate varies by condition)
8 to 10 wks 3 plants per 8" pot (20 cm)	Avoid temperatures below 50°F (10°C)		Soil EC 1.0-1.5 pH 5.5 to 6.2	

Pests	Mealybug	Many options available and low chance of phytotoxicity
	Aphids	Many options available and low chance of phytotoxicity
Diseases	Pythium	Mefenoxam, but Pythium is rare.
	AltMv	Dispose of diseased plants. Stock plants are tested to ensure clean material
	Brown Spots	Occurs from extreme dryness and wetness.

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide	Comments
Weeks 1 to 6	5.5-6.2	1.0-1.5	65°-68°F (18°-20°C)	100 -150 ppm	Day Neutral	2500 Daminozide	Mefenoxam	Mefonxam only needed if pythium is found
Weeks 6 to finish	5.7-6.0	1.0-1.2	65°-68°F (18°-20°C)	100-150 ppm		Paclobutrazol drench		Drench at 0.2ppm will stall growth making better Product for consumer

Propagation Tips

- A relatively high level of humidity is required, 50-70% for optimal growth
- Radiation – shading net of 70-80% (in summer)
- Temp.- A high temperature of 77°-86°F (25°-30°C) encourages faster rooting
- Number of cuttings per cell – 1-2 cuttings
- Can be directly stuck into finished pots if the humidity is high



Width

12-24"
(30-61 cm)



Height

12-24"
(30-61 cm)

Average Time	Temperature	Radiation	Humidity Level	Fungicide
5 to 7 weeks	Weeks 1-2 70°-90°F (21°-32°C)	70-80% 1500-3000 fc	50-70%	Spray fungicide to control Rhizoctonia and bacteria day of sticking. Do not apply Mefenoxan or Iprodine
	Minimum Temperature of 60°F (15.5°C)	Neon is especially sensitive to high light		



- **Irrigation specification** - Scindapsus should be kept slightly moist, avoiding over-watering. Maintain higher humidity only during the first 1-2 weeks of rooting, and gradually reduce mist once roots develop



- The primary driver of the growth is temperature. Temperatures up to 86°F (30°C) will hasten Production time
- Scindapsus are sensitive to ethylene. Boxes should immediately be opened upon arrival, and cuttings should be stuck as soon as possible

Rooting	pH	EC	Temp	Feed	PGR	Fungicide	Comments
Week 1	5.8-6.2	0.8-1.5	77°F (25°C)	50 ppm N in mist		Day of sticking	Avoid Mefonoxan and Iprodine
Week 2	5.8-6.2	0.8-1.5	77°F (25°C)	50 ppm N in mist		Second fungicide app	
Week 3	5.8-6.2	0.8-1.5	77°F (25°C)	100-150 ppm			
Week 4-6	5.8-6.2	1-1.5	77°F (25°C)	100-150 ppm	Should not be needed		

Finishing Tips

- Radiation—of 1,500 to 3,500 fc is ideal
- Optimal temperature of 70°-90°F (21°-32°C) is best. Temperature most important driver for growth.
- Sensitive to low pH, which results in Manganese toxicity. Identified by spotting on leaves

Average Time (from liners)	Temperature	Pinch/ Daylength Modification	Fertility	Plant Growth Regulator
9 to 13 wks direct stuck 6 plants per 5" pot (12 cm)	Average Day 70°-90°F (21°-32°C)	Not required	Soil EC 1.5-1.8 pH 5.5 to 6.0	Naturally more compact than Epipremnum. 2500 ppm B9 if stretch occurs
12 to 16 wks 10 plants per 8" pot (20 cm)	Minimum temperature of 55°F (12.8°C)			

Pests	Mealy Bugs	Growers Choice
	Spider Mites	Growers Choice
Diseases	Rhizoctonia	Do not use OHP Chipco 26019 as a soil drench on Pothos (From Label)
	Pythium	If using Subdue Maxx read label for special Pothos rate
	Pseudomonas	

- Low pH can result in Manganese toxicity. Appears as spotting on leaves
- Calcium sprays are beneficial to encourage stronger leaves
- ! PGR - Spray Daminozide at 2500 to 5000 ppm to reduce the size of leaves and shorten vines
- If using Subdue Maxx, be sure to read the label and use the suggested rate. (0.3-0.38 fl oz per 100 gallons)
- Brown burns will appear on variegated areas of Pothos if the light intensity is too high

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide
	5.8 to 6.2	1.0 to 1.5	70°-90°F (21°-32°C)	100-150 ppm	Day Neutral		Spray fungicide after transplant

TRADESCANTIA

Propagation Tips

- Can be stuck directly. Lightly mist for the first few days to speed up rooting
- Sillamontana is one to two weeks slower to root, so it is better suited for liner propagation
- Radiation–2000 fc is ideal for propagation, but can be grown in conditions ranging from 500 to 5000 fc.
- Temp. - high temperature of 77°-86°F (25°-30°C)
- Media - an aerated media



Width
Spreading



Height
Trailing

Average Time	Temperature	Radiation	Humidity Level	Fungicide
4 weeks	77°-86°F (25°-30°C)	1500-2500fc	50-70%	Disease pressure is rare
In Liner	Avoid Temps. below 60°F (15.5°C)		Mist first few days	Pythium can occur if excessively wet

Rooting	pH	EC	Temp	Feed	PGR	Comments
Week 1	5.8-6.0	0.8	72°-74°F (22°-23°C)	50 ppm N in mist		
Week 2	5.8-6.0	0.8-0.9	72°-74°F (22°-23°C)	50 ppm N in mist		
Week 3	5.8-6.0	0.9-1.0	Cool to 70°-68°F (21°-20°C)	100-150 ppm		
Week 4	5.8-6.0	1.0-1.2	65°-68°F (18°-20°C)	100-150 ppm	2500 Daminozide as needed	Pinch or mow

Finishing Tips

- Keep evenly moist. Moisture extremes can result in brown spots on leaves
- Radiation – Will grow in light ranging from 500-5000 fc.
- Tricolor and Sillamontana are more sensitive to light and should be kept below 3500 fc.
- Optimal temperature of 77°-86°F (25°-30°C) is best
- Pinch is suggested. Ethephon will also help remove flowers and encourage branching

Average Time (from liners)	Temperature	Pinch	Fertility	Plant Growth Regulator
7 to 8 wks 3 plants per 5" pot (12 cm)	Average Day 77°-86°F (25°-30°C)	Pinch – Suggested to encourage branching. Can be mowed	Soil EC 1.0-1.5 pH 5.5 to 6.2	2500 Daminozide+ 500 ethephon spray Or 0.1 to 0.3ppm Paclobutrazol drench (rate varies by condition)
8 to 10 wks 5 plants per 8" pot (20 cm)	Avoid temperatures below 50°F (10°C)		Soil EC 1.0-1.5 pH 5.5 to 6.2	

Pests	Mealybug	Many options available and low chance of phytotoxicity
	Aphids	Many options available and low chance of phytotoxicity
Diseases	Pythium	Mefenoxam, but Pythium is rare.
	Potyvirus	Dispose of diseased plants. Stock plants are tested to ensure clean material
	Brown Spots	Occurs from extreme dryness and wetness.

Finishing	pH	EC	Temp	Feed	Light	PGR	Fungicide	Comments
Weeks 1 to 6	5.5 to 6.2	1.0-1.5	65°-68°F (18°-20°C)	100-150 ppm	Day Neutral	2500 Daminozide	Mefenoxam	Mefonxam only needed if pythium is found
Weeks 6 to finish	5.7 to 6.0	1.0-1.2	65°-68 °F (18°-20°C)	100-150 ppm		Paclobutrazol drench		Drench at 0.2ppm will stall growth making better Product for consumer

Danziger Floresta™ Team



Amir Dor
Director of Sales,
Annuals & Perennials
amir.dor@danziger.co.il



Ori Danziger
Deputy CEO
ori@danziger.co.il



Gaby Danziger
CEO
gaby@danziger.co.il



Mike Fernandez
Market Manager NA
mike@danziger.co.il



Uri Kamara
VP of Global Production
and Operations
kamara.uri@danziger.co.il



Ohad Shafran
Head of Product
Management
Ohads@danziger.co.il



Lisa Heredia
Marketing and Key
Accounts NA
lisa.heredia@danziger.co.il



Sharon Israel
Product Operations
Manager
sharon@danziger.co.il



Joy Keeler
Sales and Product
Representative Canada
joy.keeler@danziger.co.il



Liat Shemer
Global Marketing
Manager
liat.shemer@danziger.co.il



Randy Uhl
R&D Coordinator
for NA
randy.uhl@danziger.co.il



Omri Cohen
General Manager, Danziger
Guatemala
omri.cohen@danguatemala.com



Amir Zuker
VP of Research &
Development (Ph.D)
amir-lab@danziger.co.il



Atar Krispil
Brand Manager
atar.krispil@danziger.co.il



Oscar Mejicano
Customer Relations
Guatemala
oscar.mejicano@danguatemala.com



Liat Lavie
Customer Relations
Manager
lavie.liat@danziger.co.il



Gili Boker
Pricing Manager &
Market Analyst
gili@danziger.co.il



Asaf Golan
Operations Manager
asaf.golan@danguatemala.com



Dana Fernandez
Customer Service
dana.fernandez@danziger.co.il



Jonah Brown
Trial Manager NA
Jonah.Brown@danziger.co.il



Mauricio Aldana
Shipping & Logistics
Manager
mauricio.aldana@danguatemala.com



Michal Mor
Customer Relations
Manager
michal.mor@danziger.co.il



Shiri Feldberg
Marketing Project
Manager
Shiri.Feldberg@danziger.co.il

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DANZIGER
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Mishmar Hashiva 5029700, P.O.Box 186, Israel
Tel: +972-3-9602525, Fax: +972-3-9605896
www.danzigeronline.com |

