# We all need a goal in life.

Red petioles, red scapes, red leaves

# The Starting Point



‘Purple Haze’



Tony Avent Seedling, no longer exists

# How to make a “red hosta”

Our hosta must be able to:

- Make the pigments
- Locate the pigments
- Intensify the pigments

# Pigments

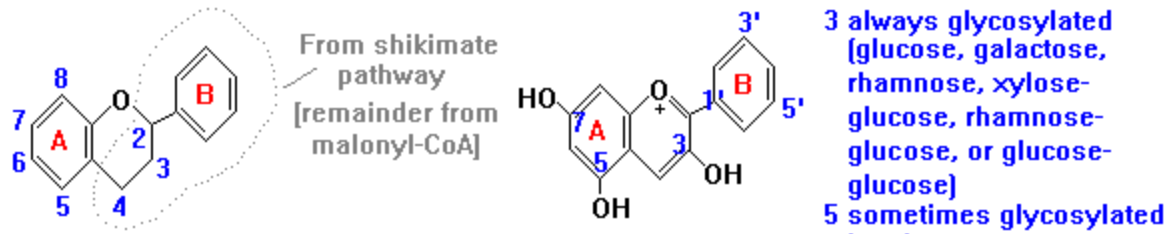
“Purple” Pigments

*H.longipes, H. kikutii, H. pycnophylla*

“Red” Pigments

*H.tsushimensis, H. yingeri, H. clausa*

# Anthocyanins



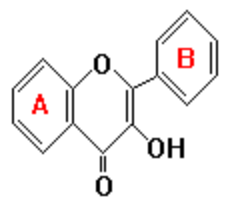

Basic flavonoid skeleton

Basic anthocyanidin structure (flavynium ion)

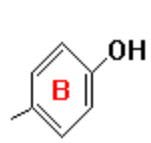
3 always glycosylated (glucose, galactose, rhamnose, xylose-glucose, rhamnose-glucose, or glucose-glucose)

5 sometimes glycosylated by glucose

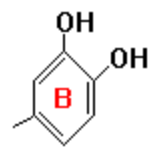
7 rarely glycosylated by glucose



Flavonols



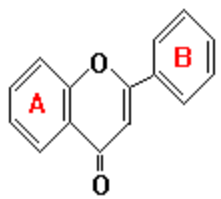
pelargonidin



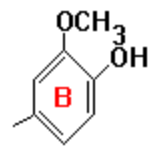
cyanidin



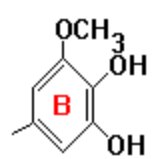
delphinidin



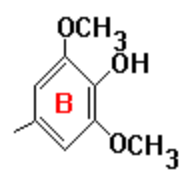
Flavones



peonidin



petunidin



malvidin

# Anthocyanins are Antioxidents

- Attack free radicals that damage and destroy cells
- Blueberries
- Red grapes
- Plums
- Cranberries

# Roy Herold

- ‘Red October’ *H. longipes* f. *hypoglauca* × *H.* ‘Harvest Delight’

- ‘Cinnamon Sticks’ *H. longipes* f. *hypoglauca* × *H.* ‘Maruba Iwa’

# ‘Red October’



# Arthur Wrede




‘Almost’



‘Miss Linda Smith’

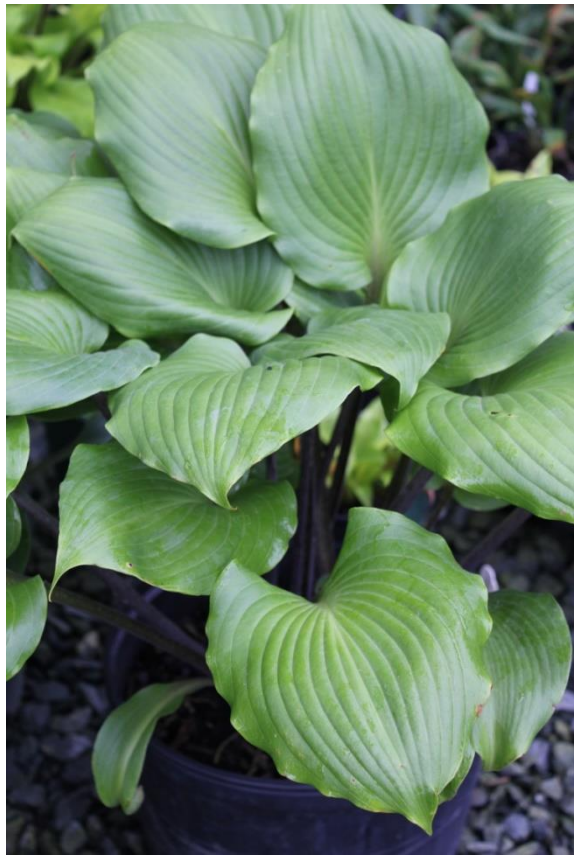
# ‘Designer Genes’



# ‘One Man’s Treasure’ (Benedict/Solberg)



# Purple Pigments



‘Sugar Plum’



‘Plum Pudding'

# But purple is not the answer!



‘Holar Purple Flash’



‘Jane’s Blush’

# Pigments

“Purple” Pigments

*H.longipes, H. kikutii, H. pycnophylla*

“Red” Pigments

*H.tsushimensis, H. yingeri, H. clausa*

# Making “red” hostas



‘Ogon Tsushima’

# ‘Lilypad’

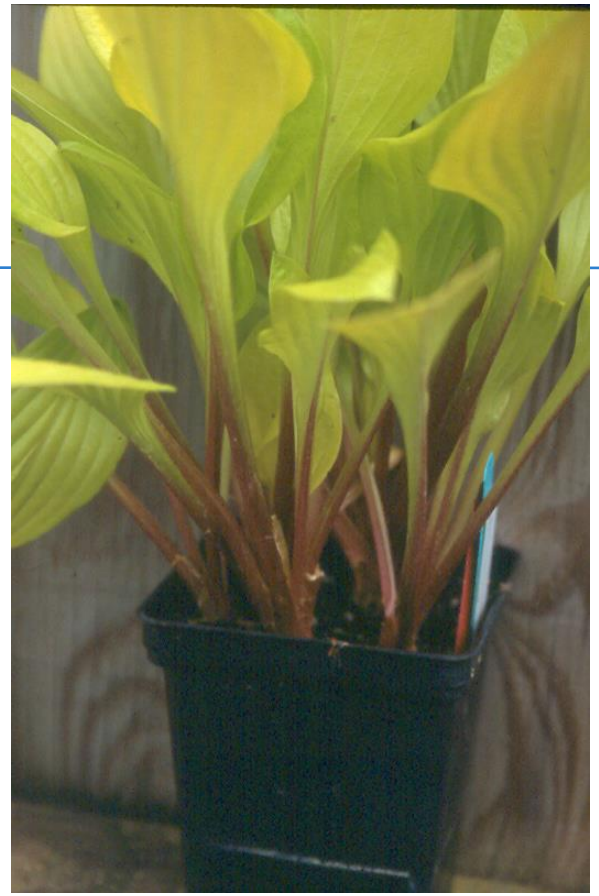




# ‘Whiskey Sour’

# ‘Sun Worshiper’








# Red pigments

‘Strawberry Banana Smoothie’

‘Beet Salad’

# Red hostas



‘Mango Salsa’



‘Peach Salsa’

# Unnamed seedling (red on back only)



# Six crosses to success

- F1 ‘Ogon Tsushima’ X *H. yingeri* seedling from Japan
- F2 ‘Whiskey Sour’ X sibling = ‘Sun Worshiper’, ‘Strawberry Banana Smoothy’
- ‘Strawberry Banana Smoothy’ X *H. clausa normalis* F2 yellow seedling = ‘Peach Salsa’, ‘Mango Salsa’, and ‘Beet Salad’
- 48/49 purple seedling X ‘Beet Salad’ = ‘First Blush’

# ‘First Blush’



# Unnamed Sports of ‘First Blush’





# Best conditions for production

- Cool temperatures
- Abundant light
- Sufficient water and nutrients
- Early spring
- Your basement under lights
- Production stops in summer heat and as leaves mature

# Then what do we do?

- Change leaf shapes
- Make the habit very upright
- Change the color of the veins
- Change the scape color
- Change size

# ‘Calm before the Storm’

44 seedling,
*wide petiole*



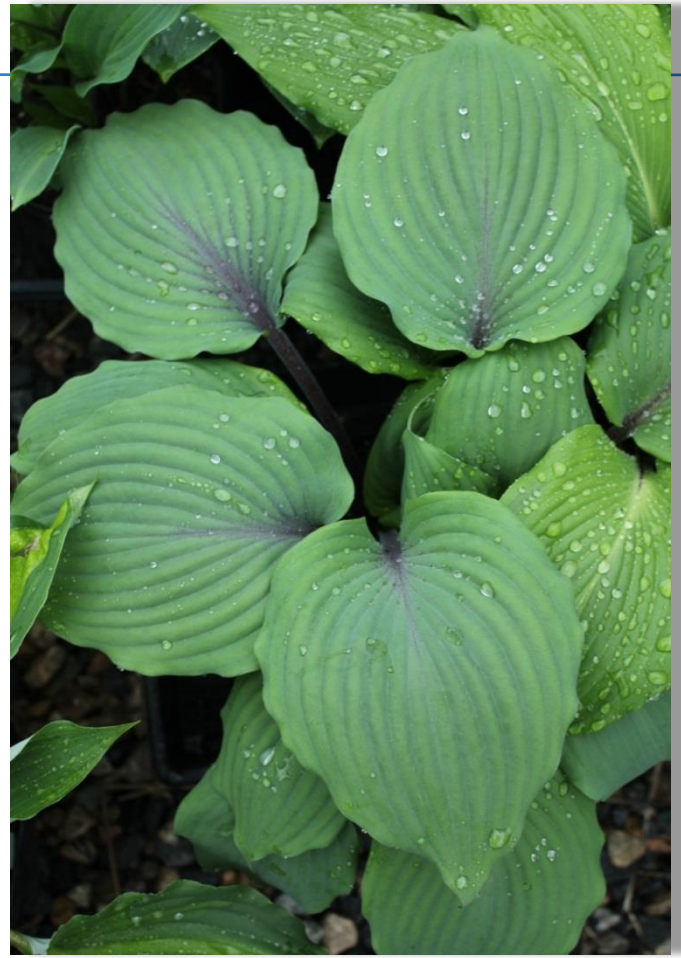
# ‘Plum Delicious’ and seedling

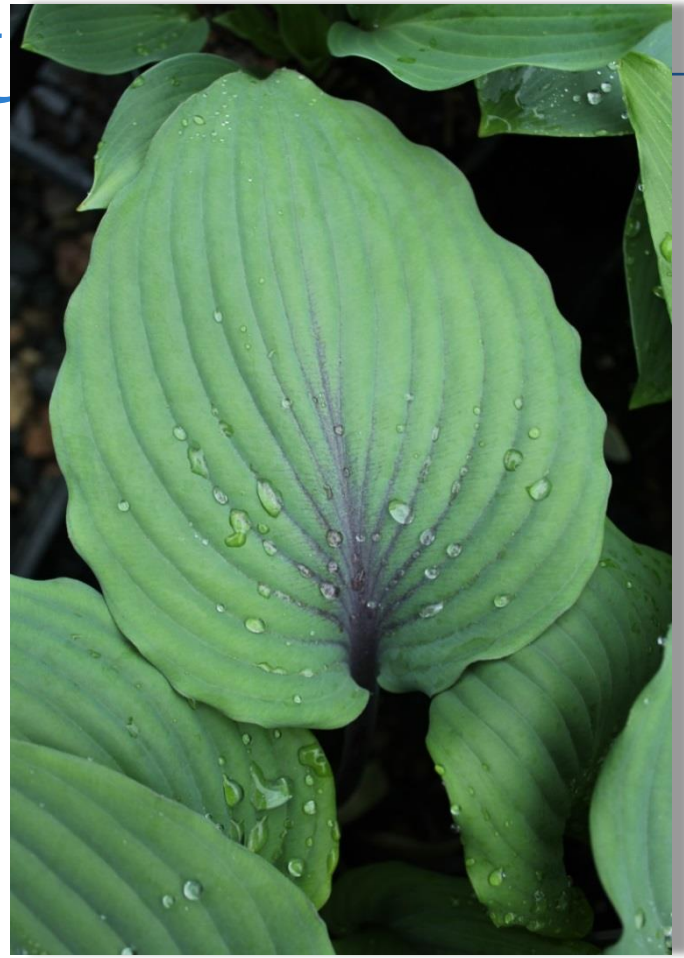


*Blue color*



# Purple Veins





# ‘ Sip of Wine’  F2 Seedling



# ‘Sip of Wine’



# Doug Ruff

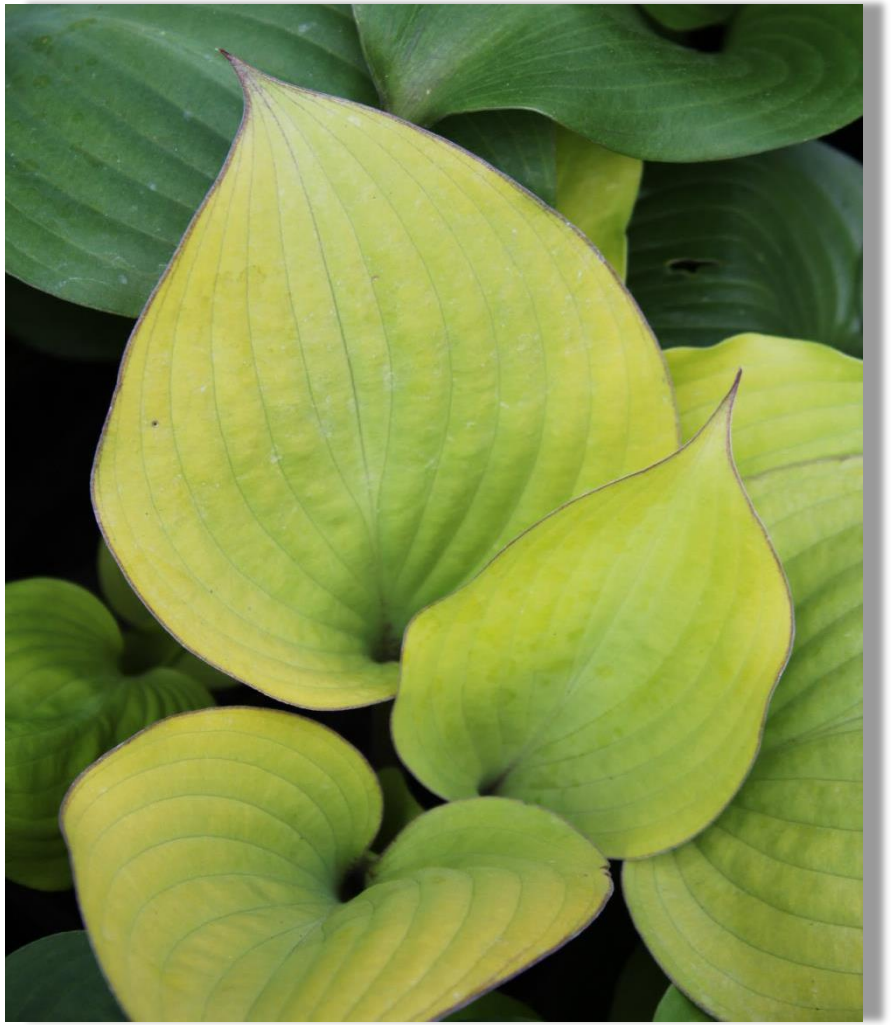


‘Bloodlines’

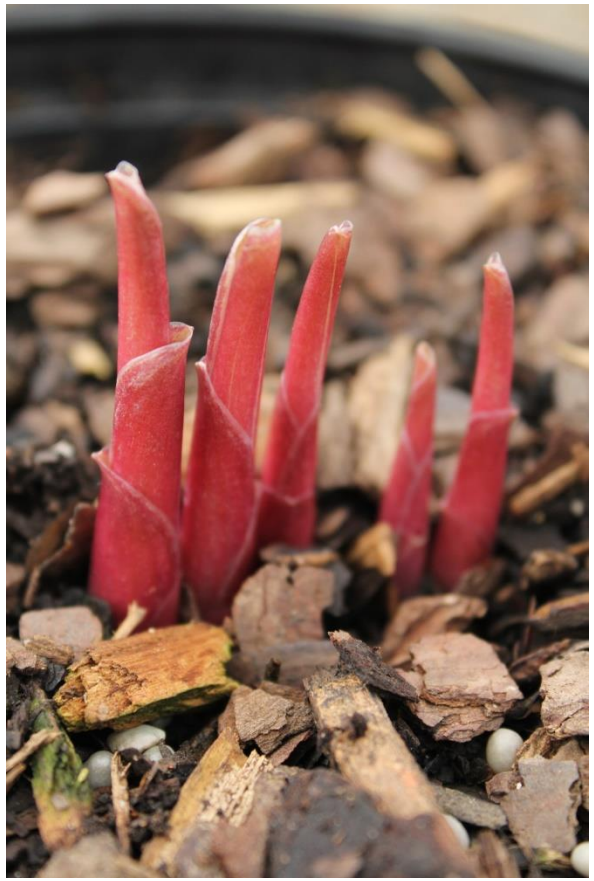


‘Light the Match’

# Purple margins



# 36 b ‘Lemon Snap’





# ‘Lemon Snap’

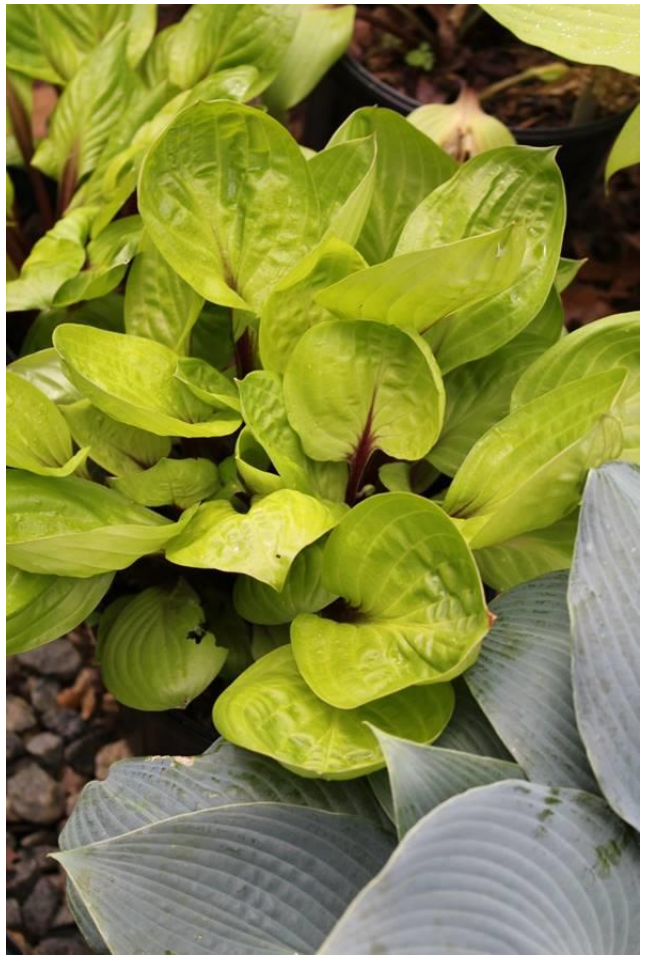


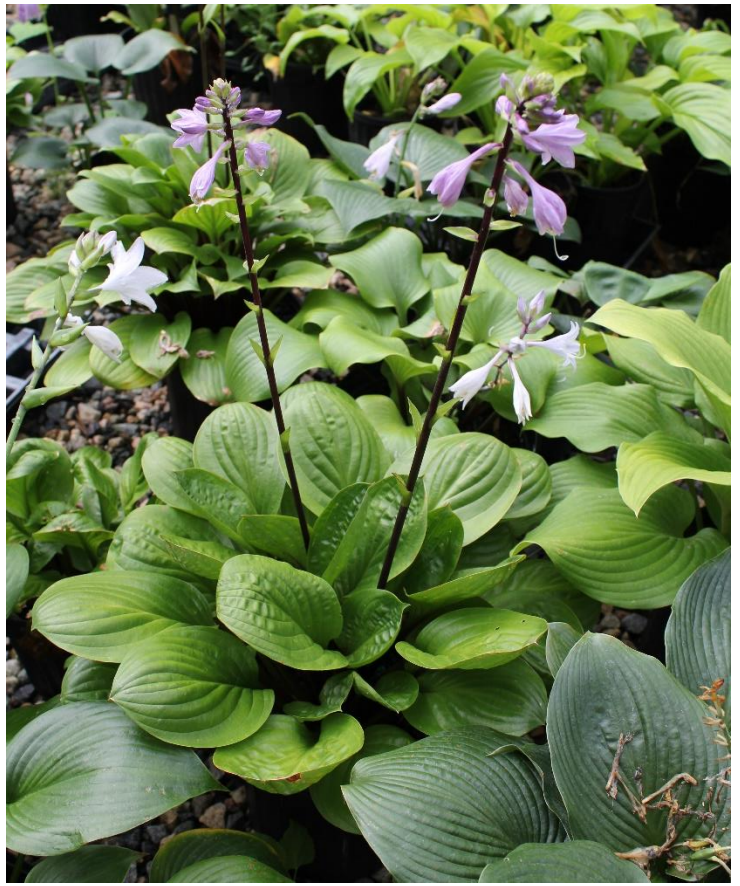
# ‘Lemon Snap’



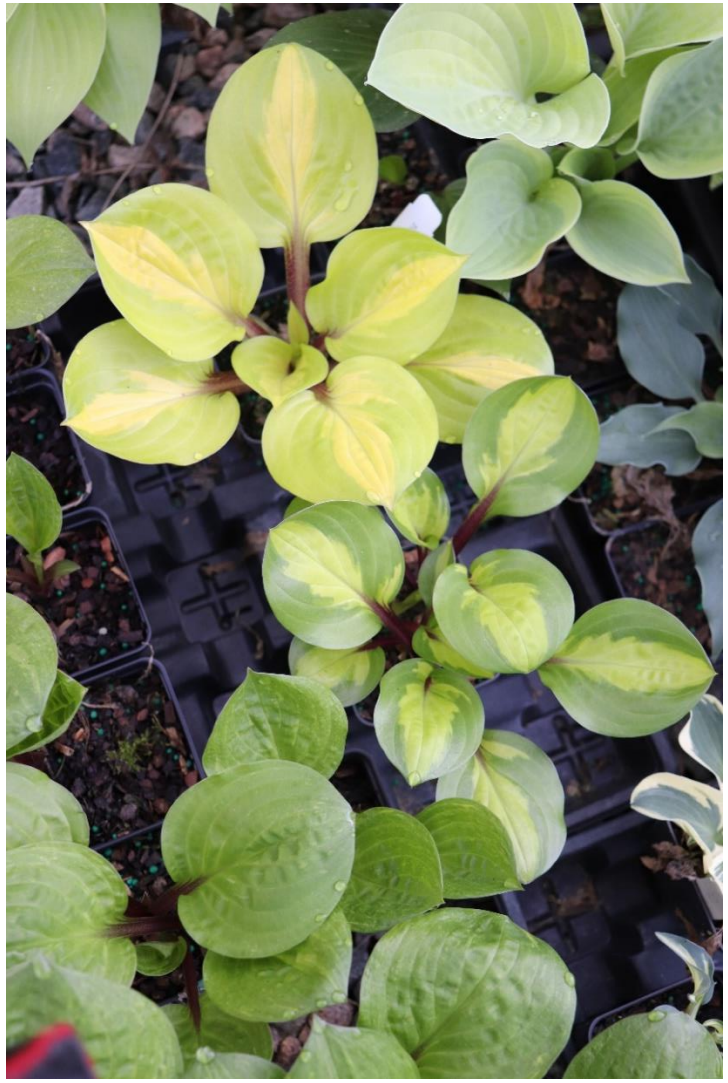


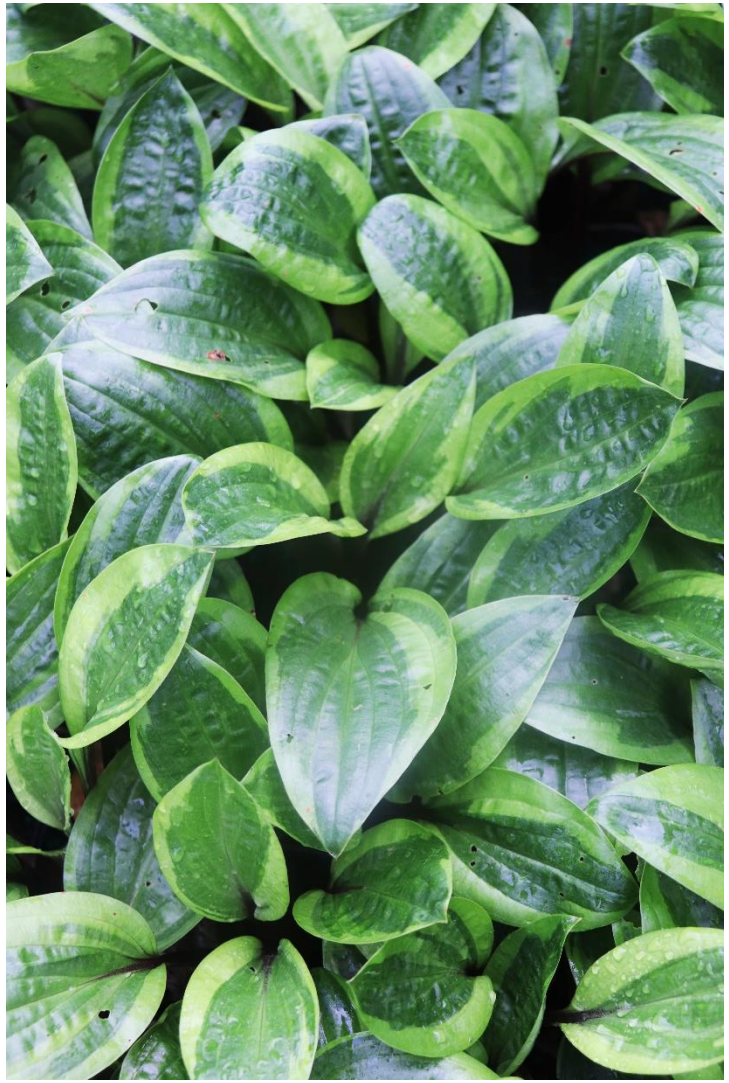
# ‘Lemon Snap’



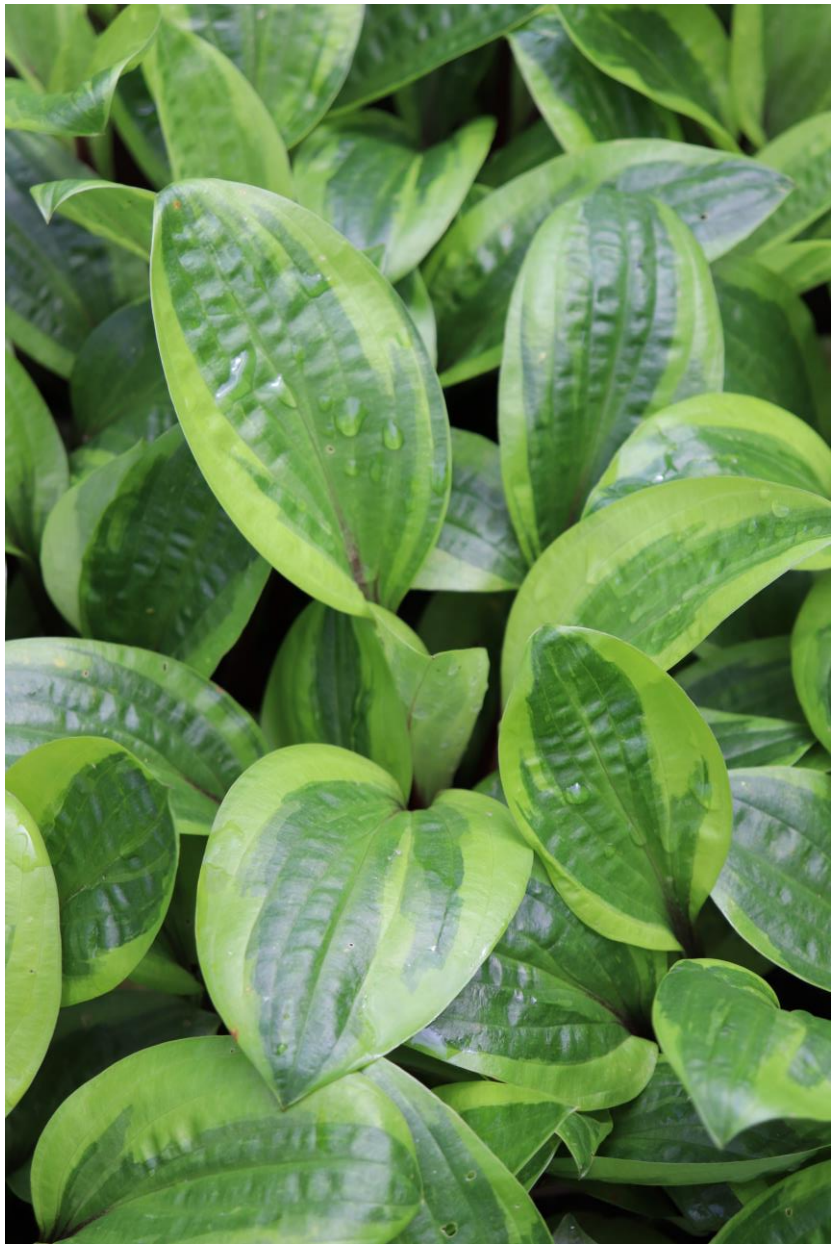


# ‘Lemon Snap’ sports





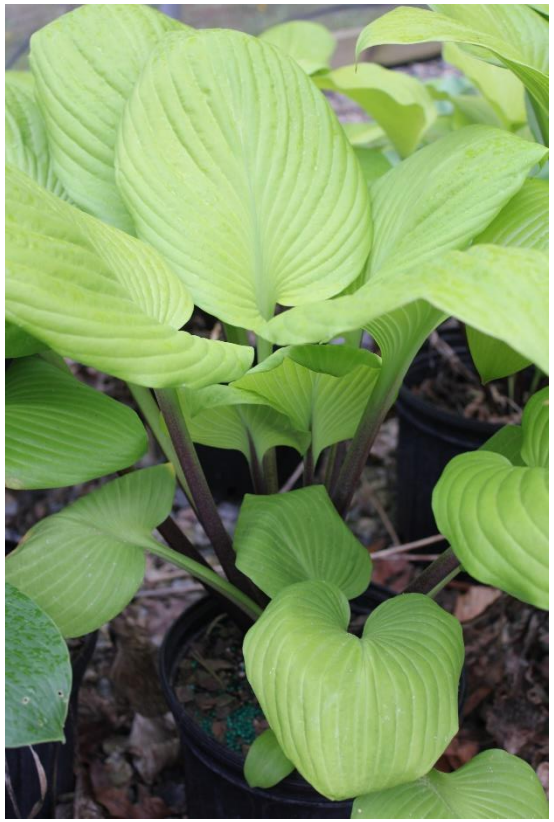
# ‘Avocado Toast’

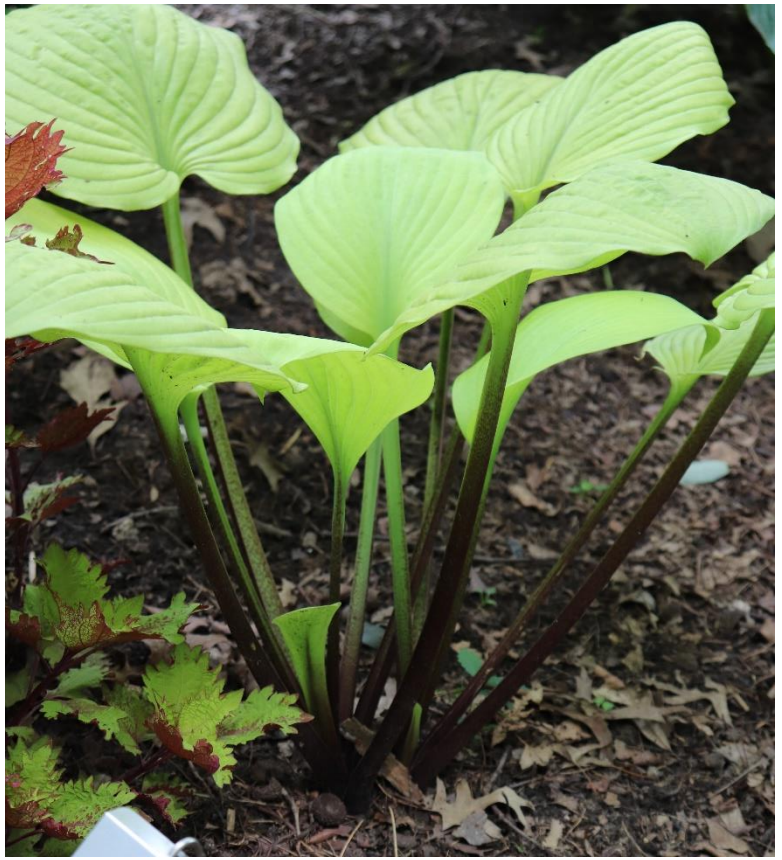


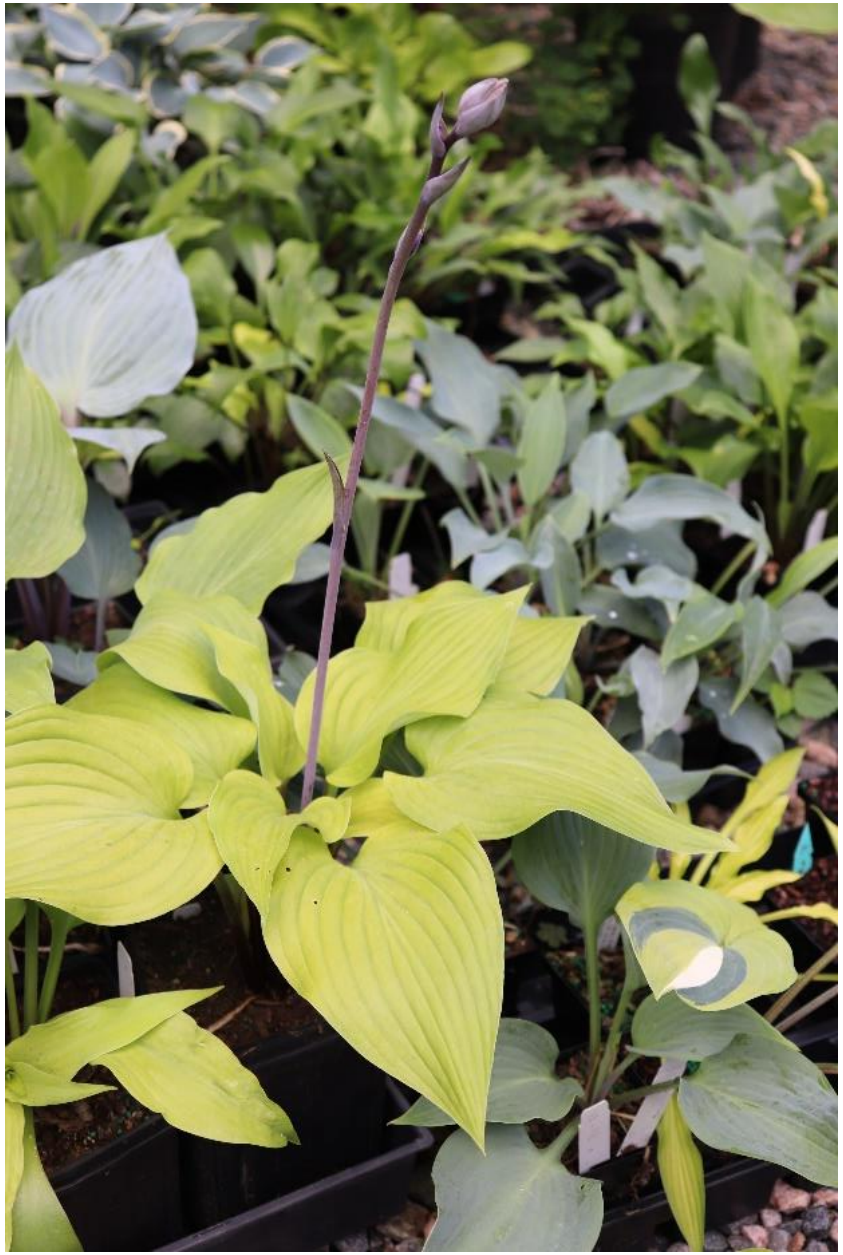
# ‘Lettuce Wrap’



# ‘Tom Terrific’





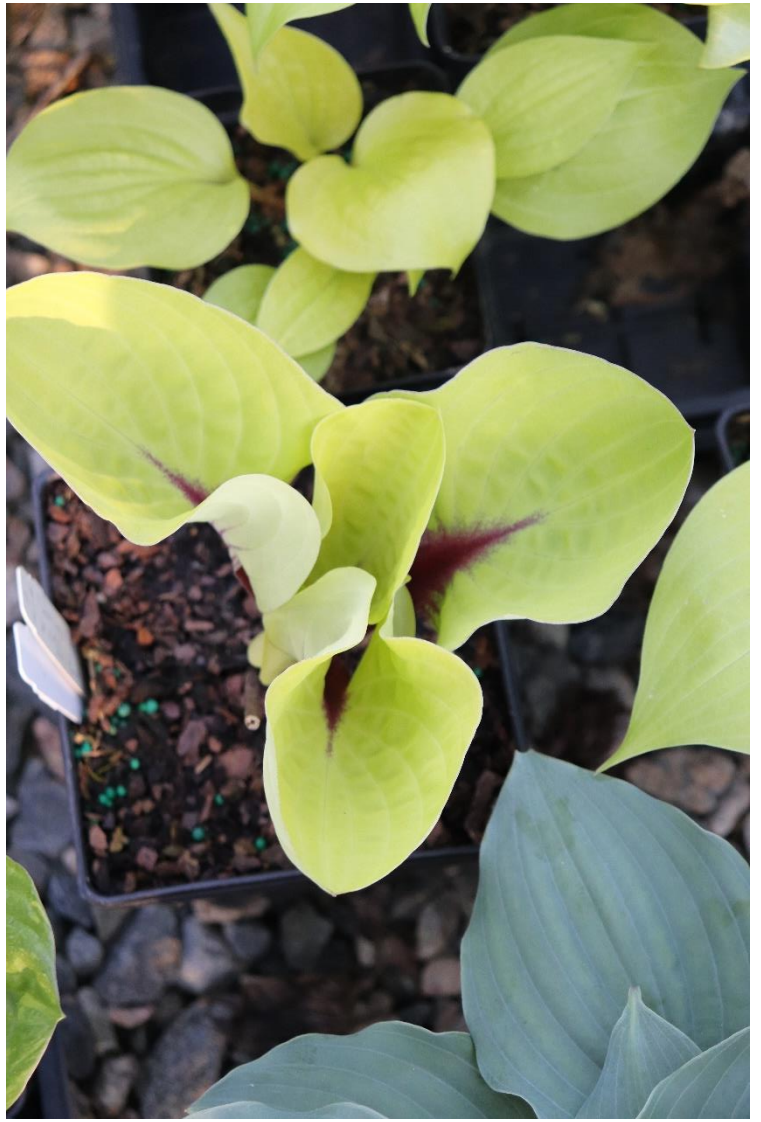


‘Designer Genes’ X
‘Komodo Dragon’

*To create a larger hosta with red petioles*

# The next generation

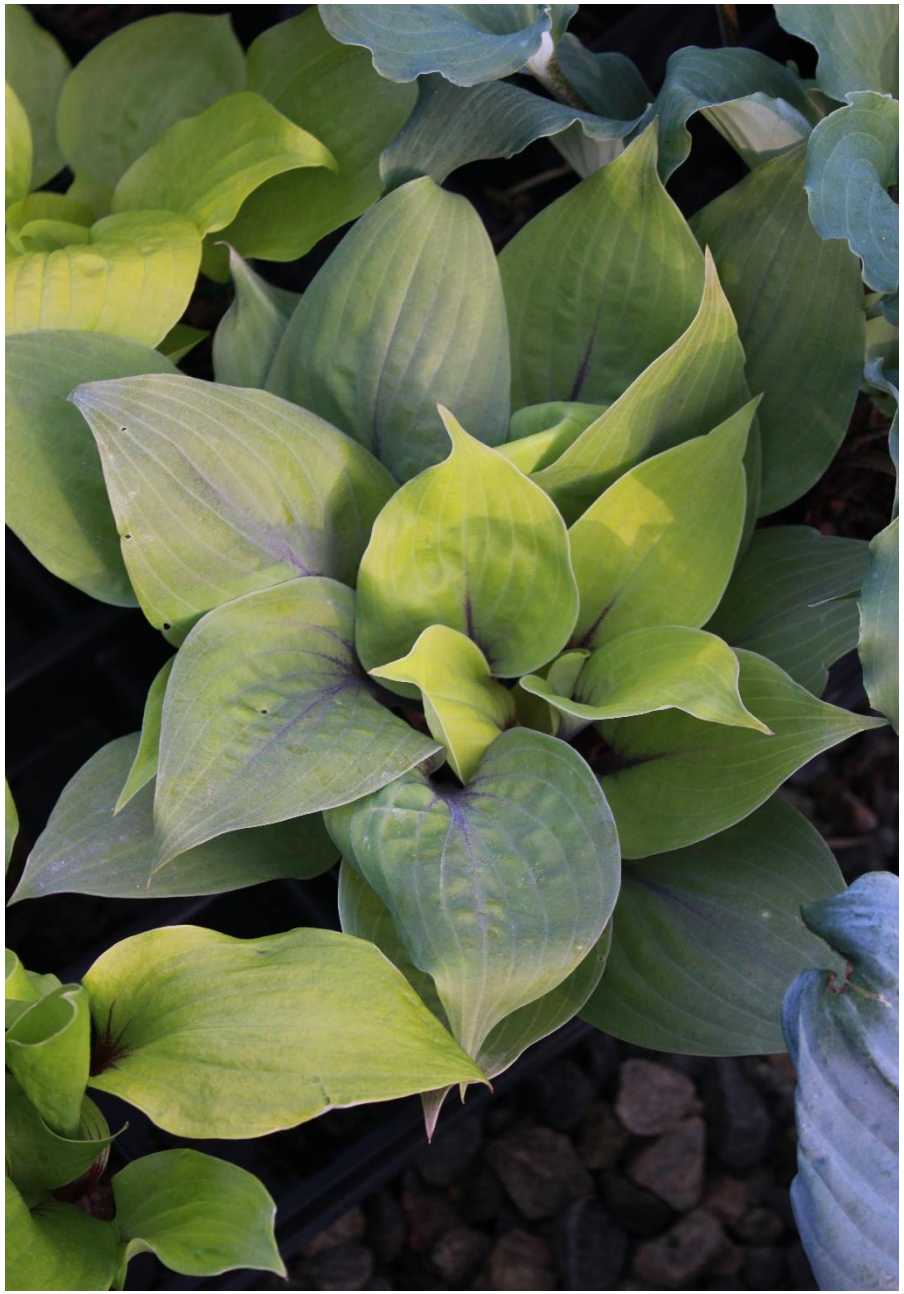




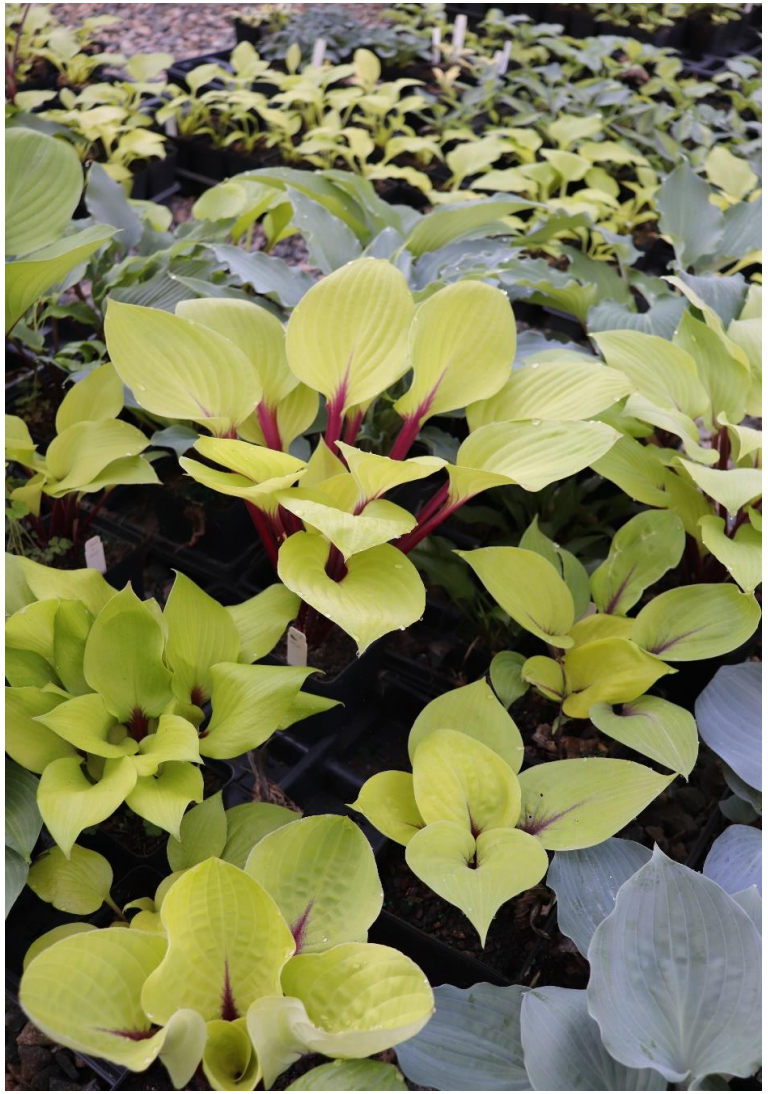
# ‘Peach Brandy’ and ‘Ruby Earrings’

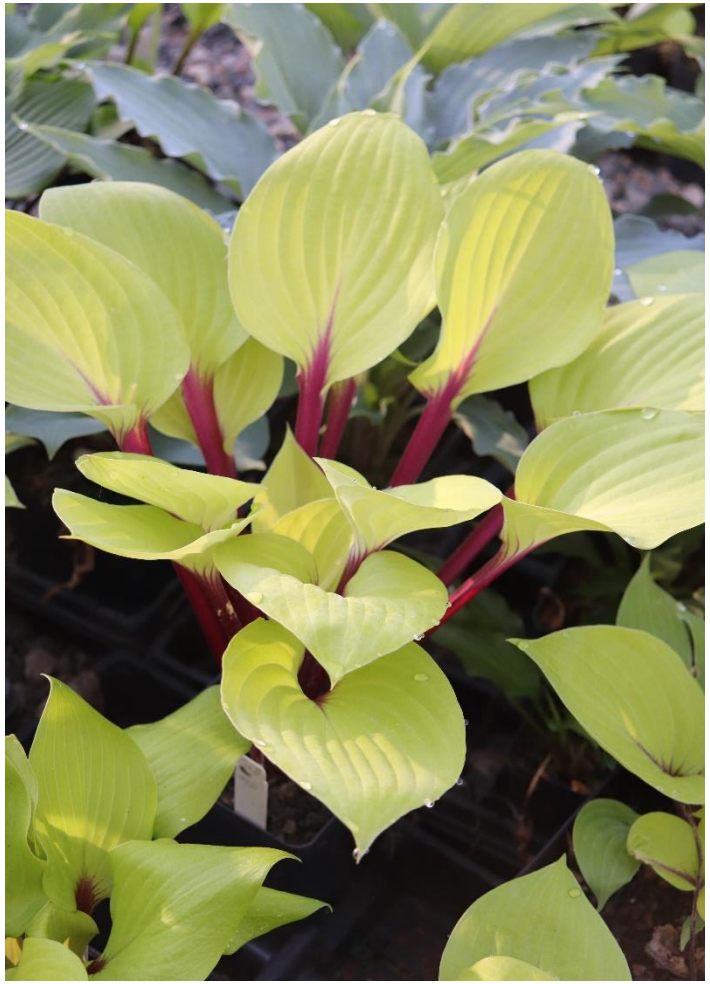


‘Peach Brandy’ blushing purple



# ‘Cherry Cheesecake’





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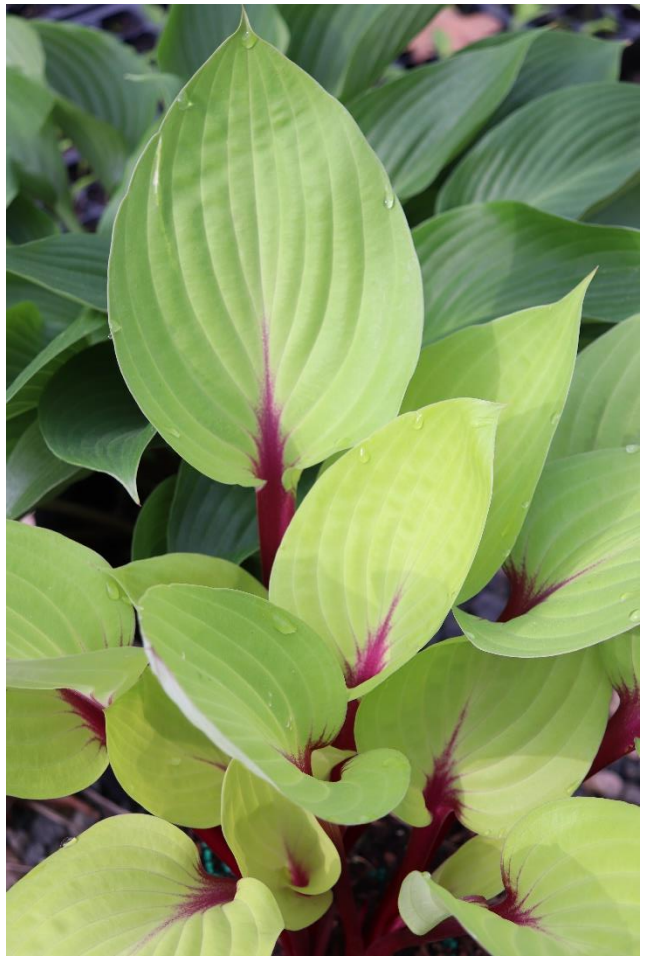
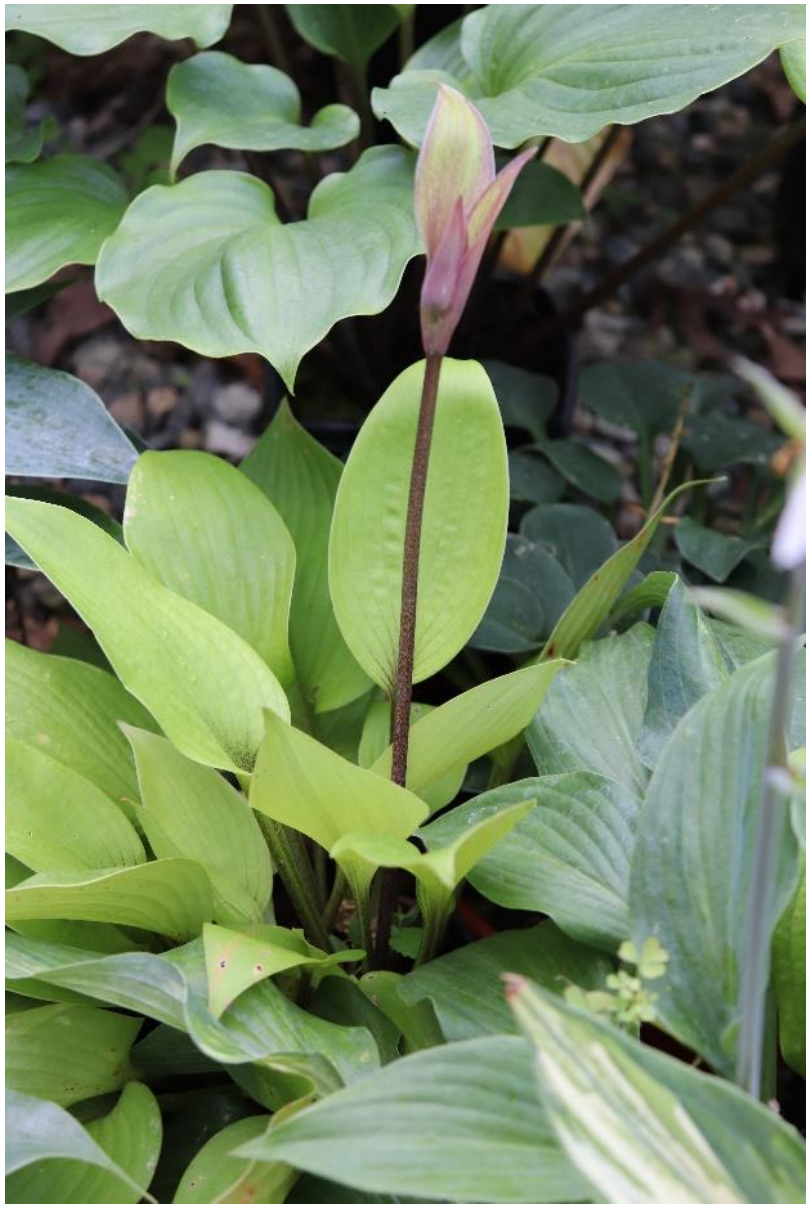
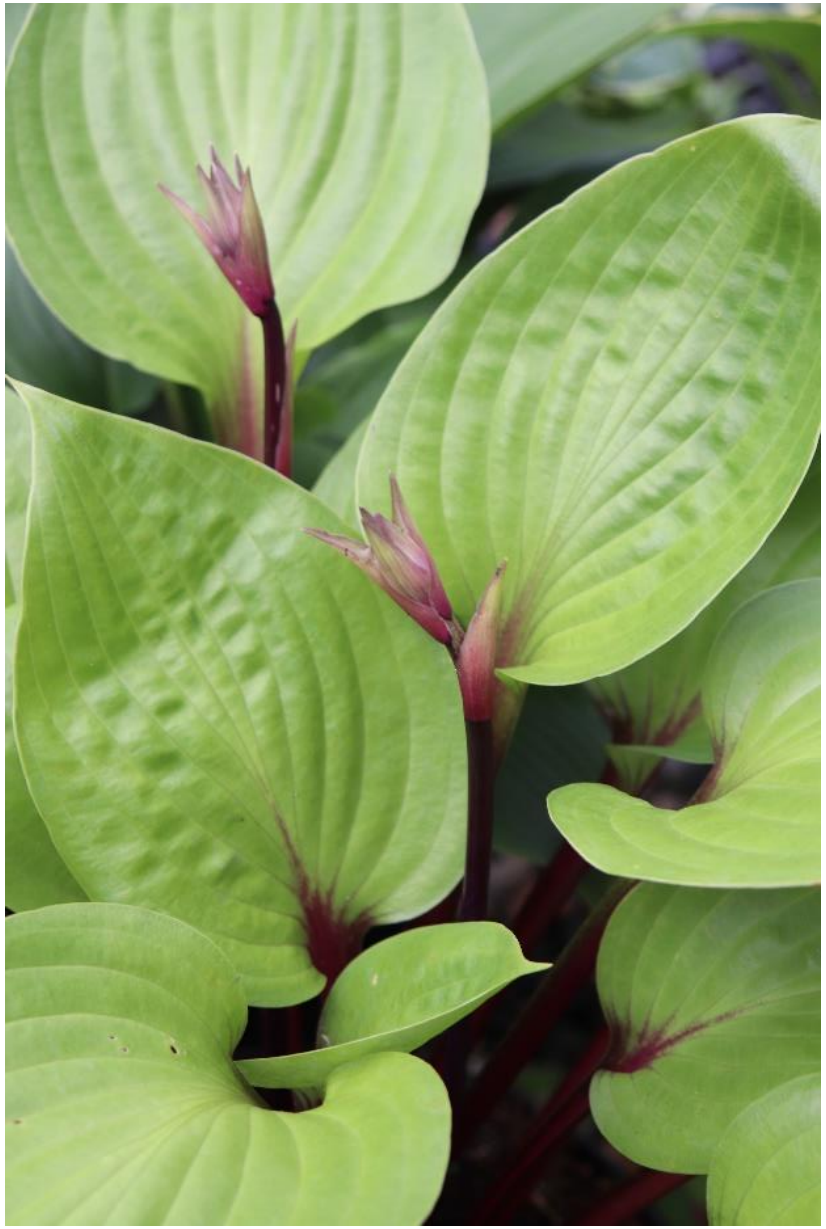


# ‘Cherry Cheesecake’



# Red scapes, seedling





# Scapes

# Red bracts

