Container Gardening

Tips, Tricks, and the Science Behind it All

Why container gardening?

- Good for patios, porches, small yards, or accents pieces in formal gardens
- Maximize space
- Versatility
- Can allow for zone pushing
- Fun

Three Basic Categories for Consideration

- Containers
- Media
- Plants

Containers

Things to Consider

- Material – plastic, metal, pottery, wood, etc.
- Size/Shape
- Drainage – drill holes if it doesn't come with them
- Weight (are you moving it after the growing season?)

Pottery

Plastic

Pottery Pros:

- Protects root zone from rapid temp changes
- Wicks water (can be a pro or con)
- Looks nice, especially glazed

Pottery Cons:

- Unglazed can form a somewhat unsightly mineral crust
- Heavy
- Very breakable

Plastic Pros:

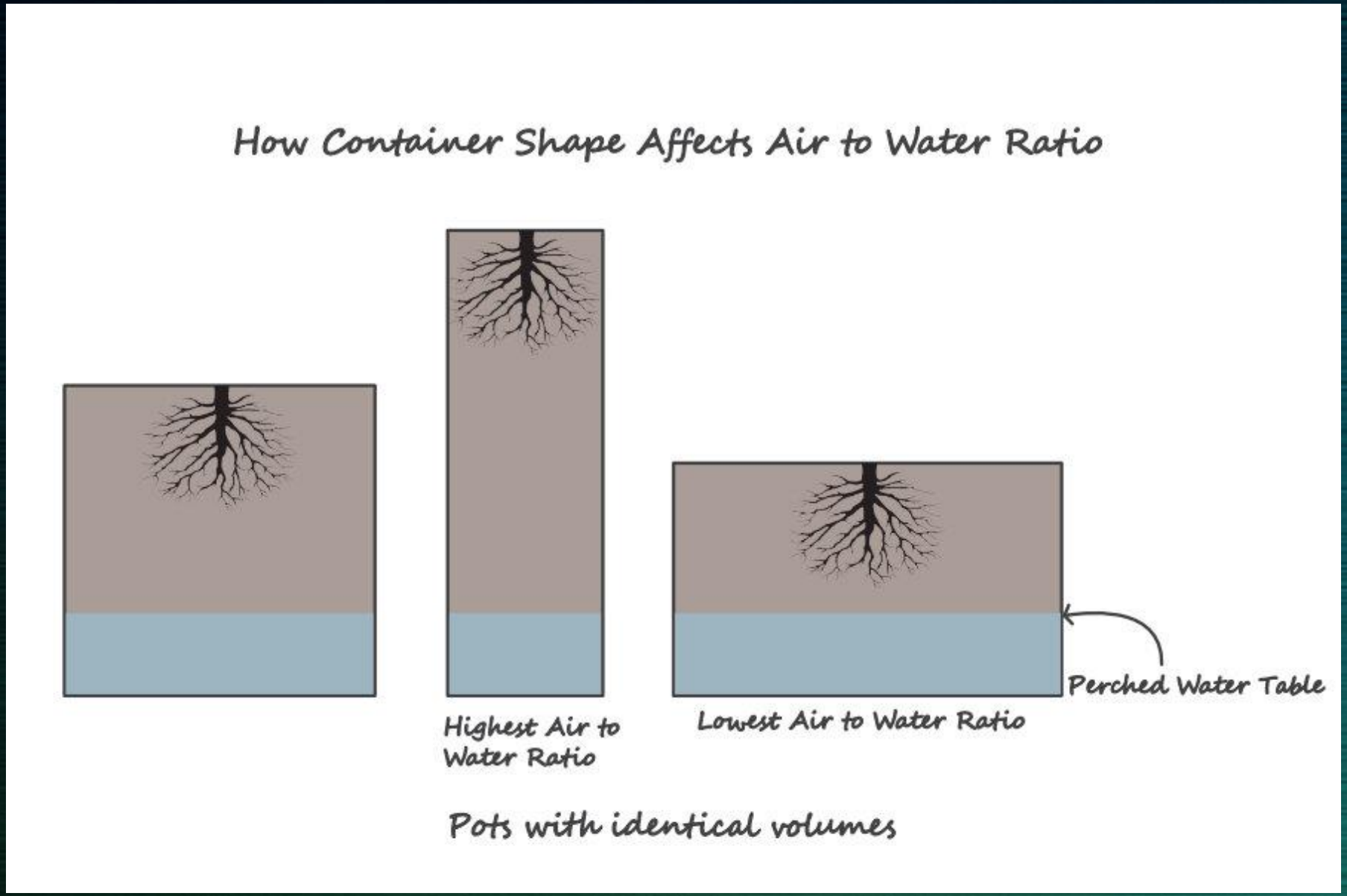
- Comes in every shape/color imaginable
- Lightweight
- Durable

Plastic Cons:

- Dark colors can overheat the root zone in full sun
- Color fades/material becomes brittle over long exposure to sun

Container Size

Container Shape



Media

Purposes of Potting Soil

- Give the roots space to grow
- Hold water
- Hold nutrients (cation exchange capacity, or CEC)
- Allow for air/gas exchange

What Makes Up Potting Soil?

- Compost
- Bark
- Peat Moss
- Coconut coir
- Perlite
- Vermiculite
- Sand
- Fertilizer

Compost

- Made of decomposed organic matter (manure, leaves, wood chips, etc.
- Main uses are to hold water and nutrients
- If not mature enough, it can burn plant roots
- Easy to come by, easy to create

Bark

- Usually pine
- AGED bark is used to create larger pore spaces
- Has some nutrients of its own, but they’re largely useless since bark decomposes more slowly than other organic matter in the mix
- Maybe sustainable, maybe not
- pH depends on the type of bark

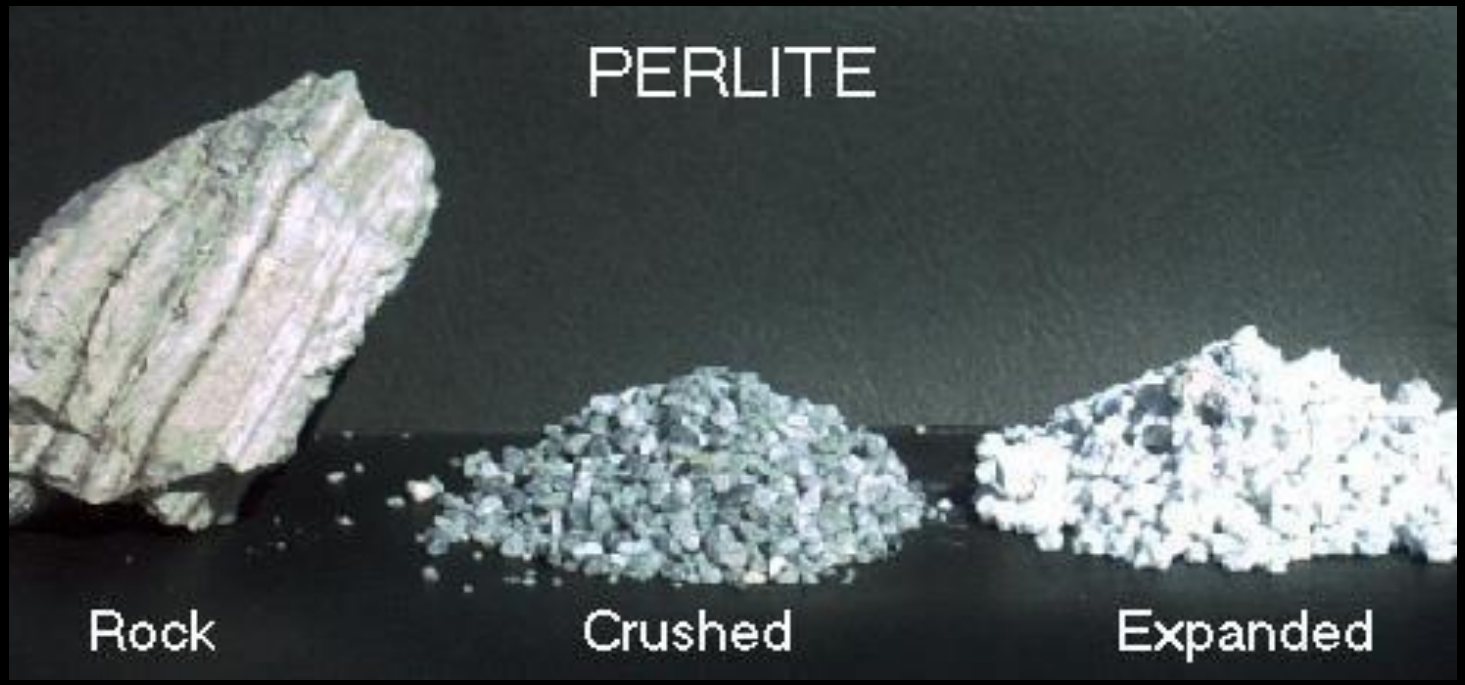
Peat Moss

- Decomposed organic material harvested in large blocks from peat bogs
- Offers a lightweight, moisture retentive additive
- Can add acidity
- Not sustainable in its current form
- Cannot be allowed to dry out

Coconut Coir

- Used as a replacement for peat moss (holds 30% more moisture than peat)
- Needs to be WELL rinsed
- Poor nutrient holding capacity
- Marketed as a sustainable alternative to peat moss, but comes with its own problems

Perlite



- Volcanic glass heated to 1000 C
- Very lightweight
- Sterile and pH neutral
- Improves drainage
- MUST be wet to work with it safely

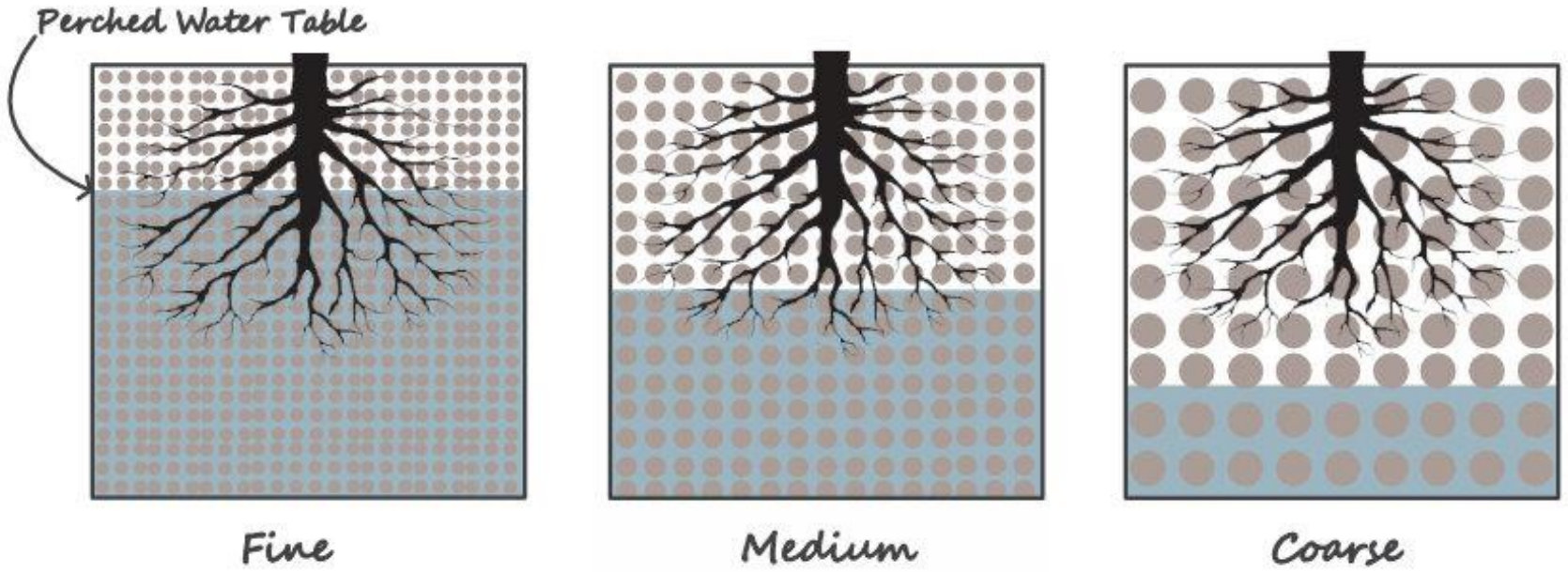
Vermiculite

- Naturally occurring mineral compound made up of laminar sheets of magnesium, aluminum, and iron silicates
- Heated until it expands like a worm
- Has no nutrients of its own but can trap and hold them
- Holds up to 4x its weight in water (lightweight when dry, heavy when wet)
- Does not break down in soil

Sand

- Better texture for finely rooted plants
- Takes up air space/reduces gas exchange
- Slows movement of water but doesn't hold it (like doubling or tripling a coffee filter)
- Heavy

The Effect of Soil Particle Size on Water Holding Capacity



Plants

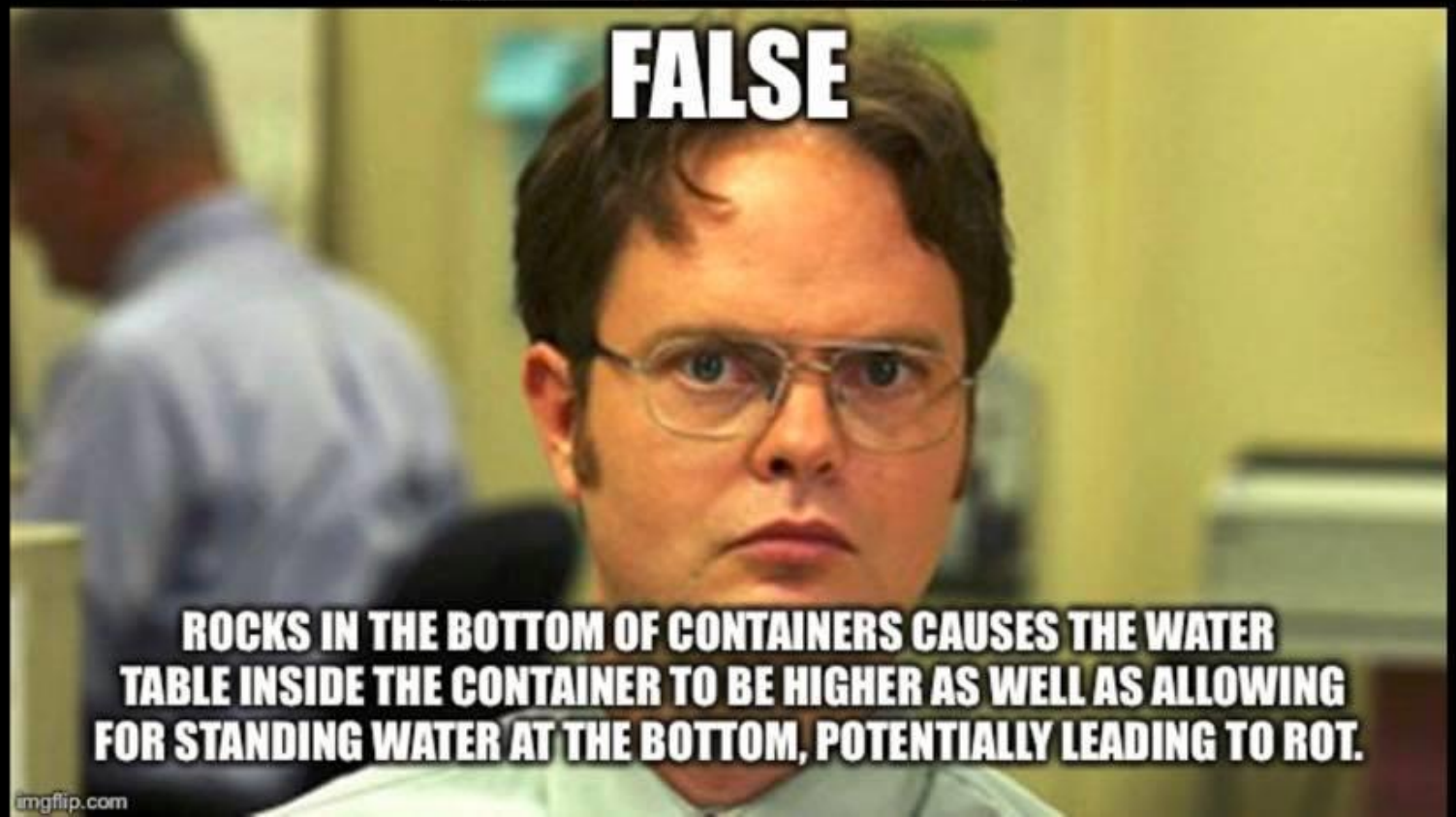
Picking Plants

- Hardiness zone should be at minimum one full zone colder than where you live
- Need to match…
  - Sun/shade requirements
  - Water requirements
  - Growth rate

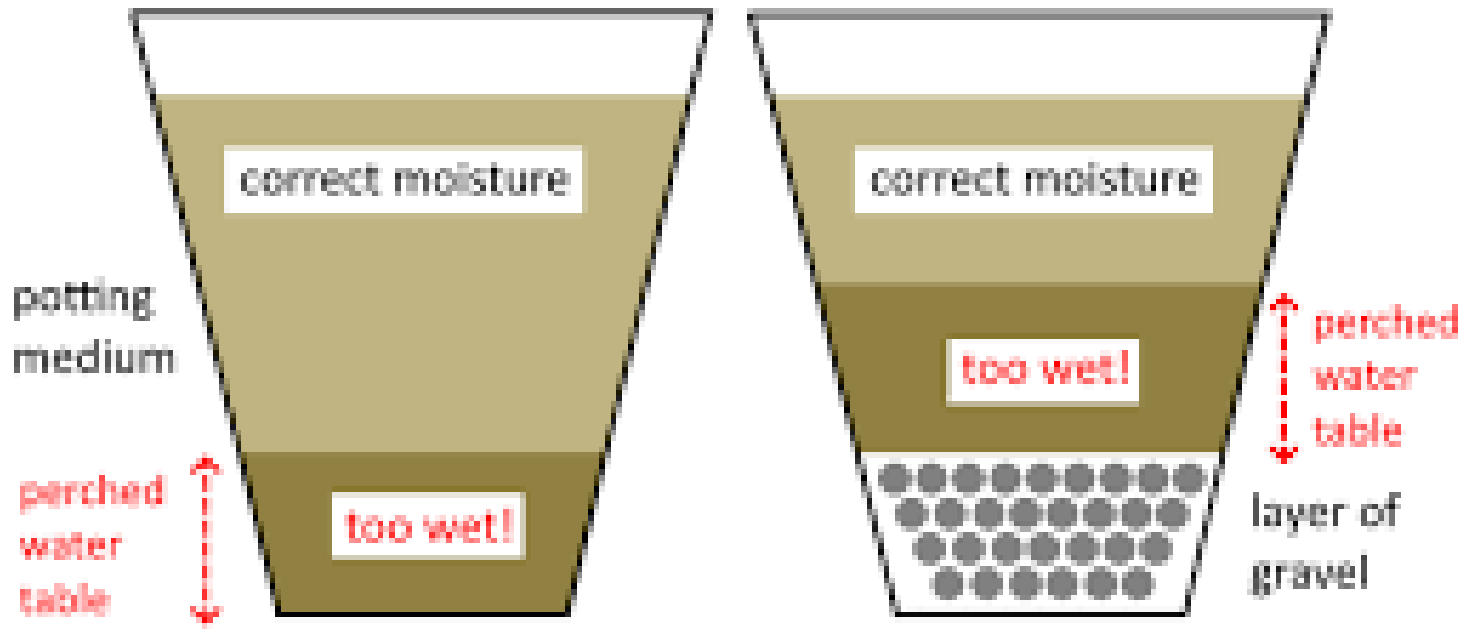
Putting it all together – Horticultural Considerations

Water Management

- NO ROCKS, STYROFOAM, EGG CARTONS, GRAVEL, POTTERY SHARDS, PLASTIC BOTTLES, KITCHEN SINKS, OR ANY OTHER MATERIAL IN THE BOTTOM OF THE CONTAINER



The Effect on Perched Water Table in Pots with Gravel Layer



perched water table is water-saturated zone at bottom of pot

Other Watering Considerations

- Bottom vs. top watering:
  - Bottom watering really only works for small pots – driven by capillary action
  - Harder to use concentrated fertilizer with bottom watering
  - Does sometimes help prevent fungus gnats and powdery mildew

- If you're going to water, commit to it!
  - Overwatering is a long term issue, it doesn't happen in one watering
  - Takes longer than you think to saturate the media
  - Chronic underwatering can leave dry pockets

Fertilizing

- Schedule depends heavily on the plants
- Prills vs. spikes vs. concentrate

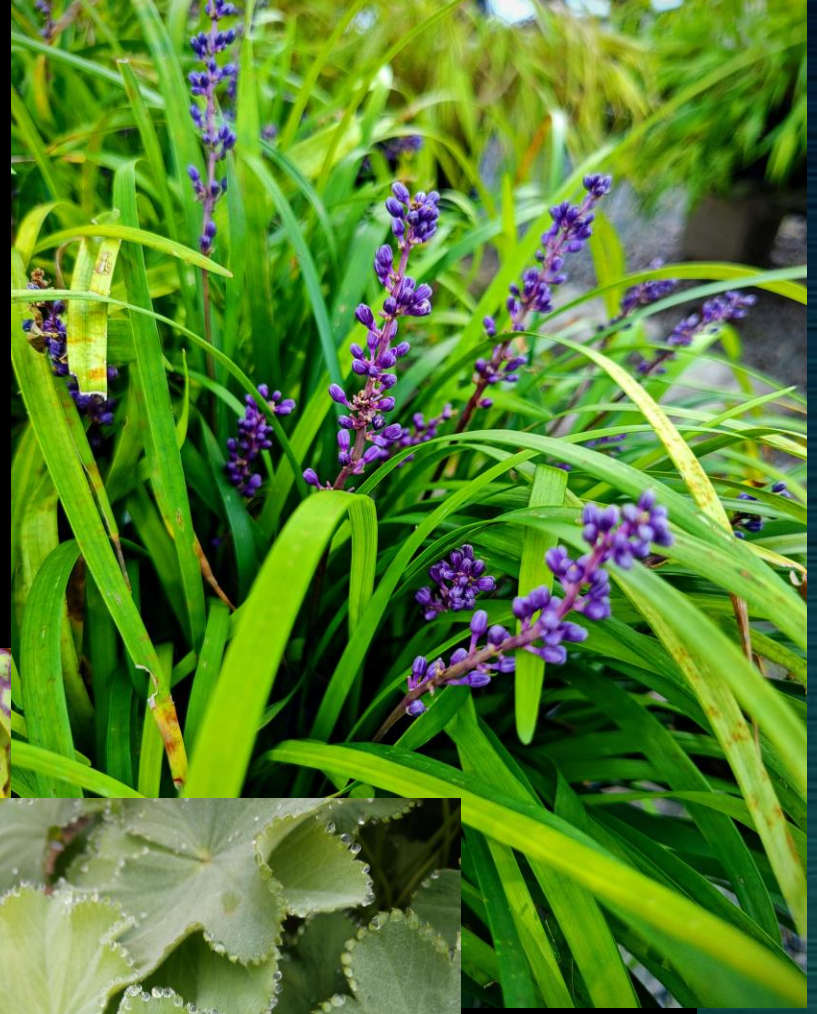
Overwintering

- Two main dangers – absolute temperature and drought
  - Wrap fragile pots against shattering or bring indoors
  - Wilt proof broadleaf evergreens
  - Water when dry and unfrozen, even if dormant
  - Wait for it…..wait for it….
    - Move into unheated garage or heel in to ground/mulch but wait as late as possible

Putting it all together: the design!

Things to Consider

- Spiller, Filler, & Thriller
- Texture
- Color
- Symmetry vs Asymmetry



Filler

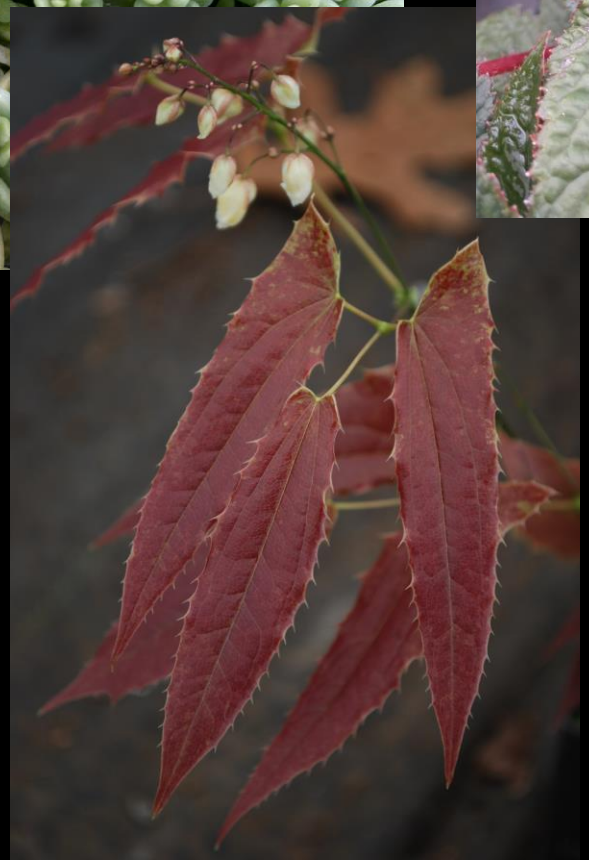
- This can be a good portion of the container space, but not necessarily
- Possibly a more neutral texture/color or even a focal depending on your preferred size/height
- This is the middle portion of your container

Thriller

- Height will be your friend!
- Think overall height not current height! Rule of thumb for floral design 2x container height

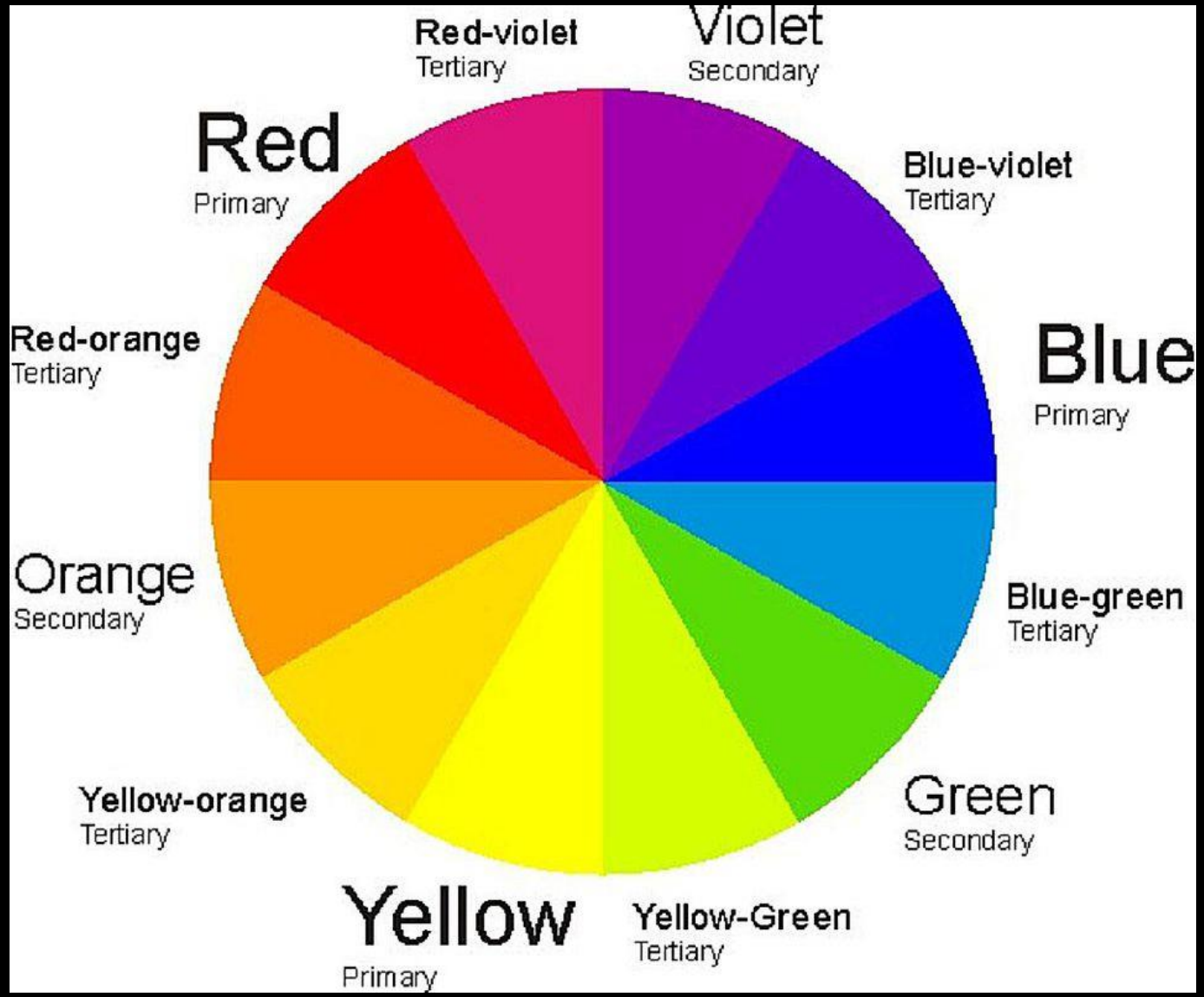
Spiller

- Something to creep or cascade down your container
- Softens the edge (and can help hide pot-in-pot)
- Remember the texture and color of your pot as well - it may be nice to play off both or one of these features
- Think outside the box



Texture

- Different textures will add more depth and dimension to your container
- Not always literal textures (though sometimes!) but also leaf shape and size

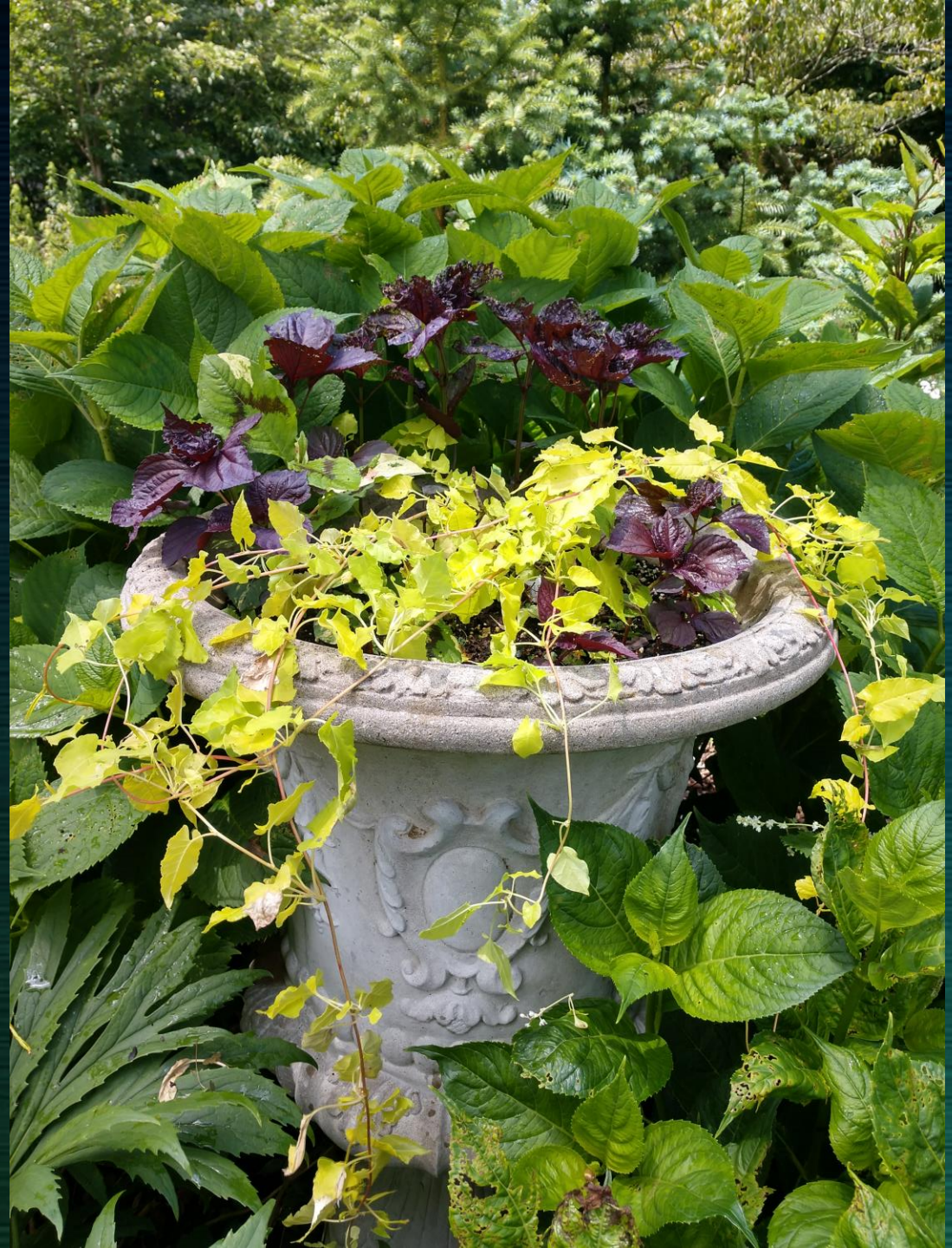


Color

- Think about the space and what colors will go well

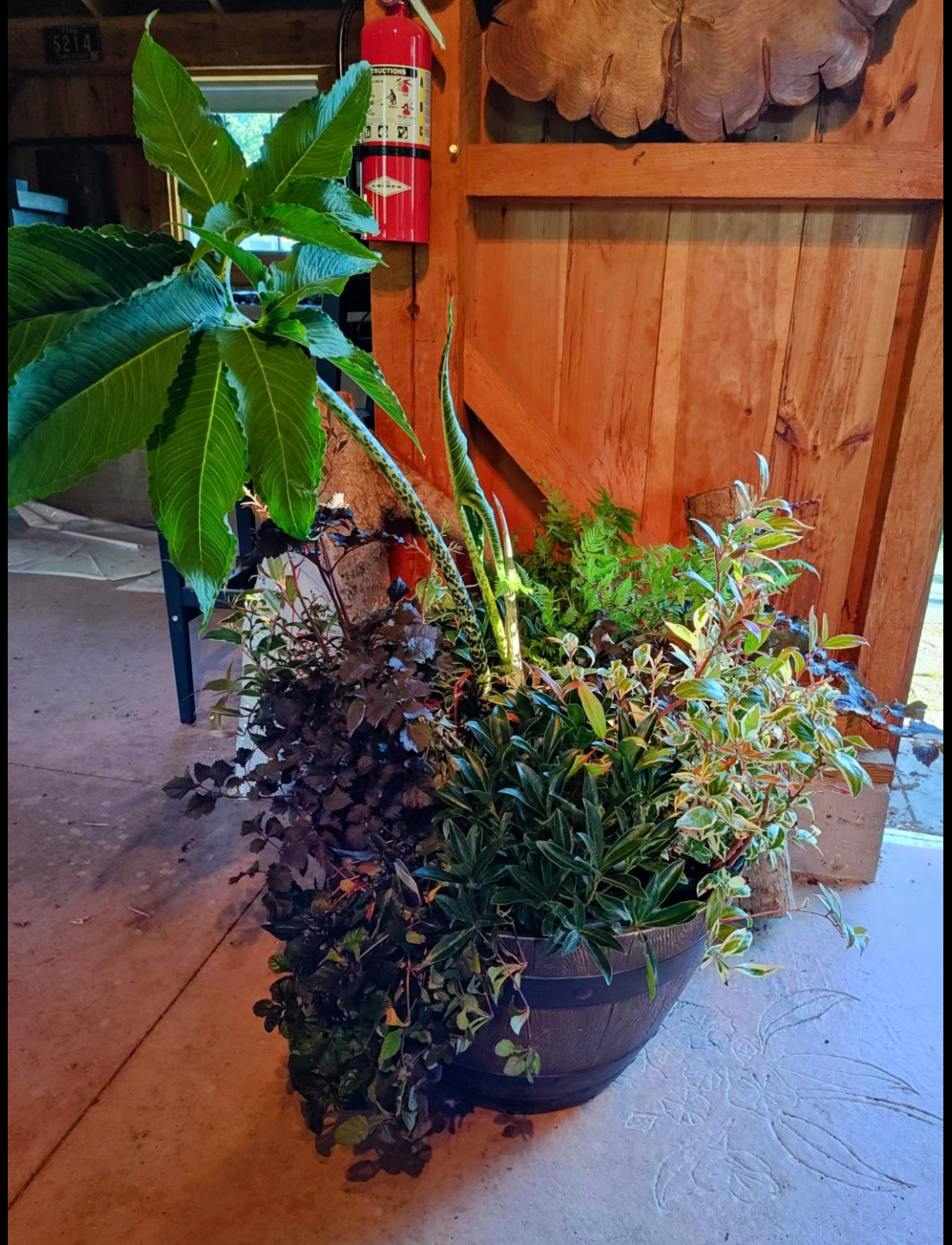
Examples:

- One consistent color family throughout
- Complimentary colors or a pattern
- Contrasting colors or a spectrum of colors (think tripod)



Symmetry

- Patterns and colors are balances in arrangement
- This can be accomplished by having the same plant or similar plants on either side of the container



Asymmetry

- Lacking ‘balance’

- Typically, one sided or has a main focal point

Last considerations…

- Odd numbers are more aesthetically pleasing
- You can do mockup first before planting to determine over all look before committing
- Mix and match long term and short term pieces
- This is your container garden, make it all your own!

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