



# WELCOME

## July 20, 2019 SUCCULENT CELEBRATION!

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# Today's 2 Hour Highlights

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Public Workshop Clients' Feedback - "How will I know what will grow successfully in my garden?"

Our clients want to learn more about

- Identification & Taxonomy
- Cool Season Winter Growers vs. Warm Season Growers
- Design
- Soil/Potting Mixes – drainage, drainage, drainage
- Watering
- Propagation, Dividing, Rejuvenating
- Hands-on Demonstrations

# What is a succulent? What is a cacti?

Spiral Aloe  
genus Aloe



Spiral Cacti  
genus Mammillaria

# Eight Genera of Familiar Succulents



# Aeoniums (a-OH-nee-ums)



*A. arboreum* 'Zwartkop', Summer dormant/winter grower

# Agaves (ah-GAV-ehs) Native to North America



Agave parryi



Agave colorata



Agave neomexicana



Agave victoriae-reginae

# Aloes (AH-lohs)



**Aloe striata**

**Aloe polyphylla**



# Dudleyas

**Dudleya farinose**



**Dudleya brittonii**



# California Dept. Fish & Wildlife Officer prepares coastal native dudleya for replanting



Succulent Smugglers – Plant Poachers  
UC Santa Cruz Arboretum and Botanical Story Sept. 2018  
(photo credit: Patrick Foy)

# Echeveria (ech-uh-VEH-ree-ah) Hens and Chicks

Echeveria



Gorgeous color!



Echeveria 3

# Echeveria - Hens and Chicks



Debra Lee Baldwin



Debra Lee Baldwin

# Euphorbia Succulents (u-FOR-bee-ah)



# Euphorbia milii Succulent



# Sempervivum (sem-per-VEE-vum)

Sempervivum



Houseleeks, Hen  
and Chicks  
Summer-dormant



A myriad of colors and leaves!

# Sedum

Sedum



Sedum 2



Sedums go on and on!



Please don't walk on me.



# Right Plant, Right Place

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You've heard it before.... and  
you'll hear it again!



# Before you pick up that plant..... where are you going to put it? Microclimates

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- A pot inside, a hanging basket on the patio or a specimen for the front garden?
- Will this plant live in a garden bed outside? In bright sun or dappled shade? Under a grow light or on a sunny windowsill?



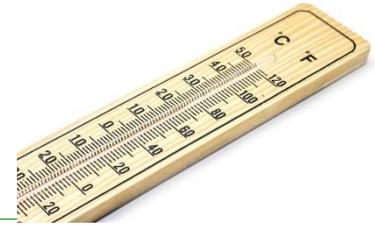
# Outside

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- Consider how large a plant can grow.... A thorny Agave can be a hazard when planted too close to a sidewalk or driveway. Pets, children and adults.
- Succulents and Cacti CAN be used as barriers.
- Look at the drainage and correct for the needs of your succulent. Group succulents in natural groupings with similar light and water requirements.
- Lawns and succulents have different needs.
- You can mix succulents and other types of plants with similar water, light and drainage needs!



# Hardy Succulents for Outside



- Agaves thrive in full sun and can survive to 10 °F.
- Hens and Chicks are all frost resistant and grow in full sun to shade. Avoid over watering!
- Aloes thrive in many conditions.
- Sedums are hardy to Zone 9 (USDA hardiness zone) and make a good border plant.



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- Aeoniums resemble large daisies with fleshy petal-like leaves in green, yellow, garnet....  
THRIVES in dappled shade. Frost tender.
  - Sedum (stonecrop) trailing succulents with oval or bean shaped leaves. Protect from high heat and strong sun. Frost tolerant.
  - Sempervivums (Hens and chicks) resemble Echeverias but rosettes have thinner, pointed leaves with a more compact spherical form. Thrive in cold climates and dislikes hot sun.



# Right Plant ...Right Place

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- Soil/Drainage
- Sun/Shade requirements
- Water
- Plant habit
- Traffic
- Hardiness zone
- Maintenance requirements



# Succulents for Inside

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- Jade Plant (*Crassula* group)
- Aloe Vera
- Echeveria (Hens and Chicks)
- Zebra Plant (*Haworthia attenuata*)
- Mother-in-law's tongue (*Sansevieria* species)



# Best Succulents for Kids

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Encourage a child's interest in gardening...

- *Haworthia attenuata* (Zebra plant)
- *Kalanchoe tomentosa* (Panda plant)
- *Sedum rubrotinctum* 'Pork and Beans' stonecrop
- *Senecio radicans* 'Fish Hooks'



Which  
can be  
great fun.



# Color





Billows of warm chartreuses and oranges repeat in round forms.



Textural play of greens against a rough stone wall.





Dense mix, or  
room to grow?





# Tale of a Garden

March 2014



May 2016



June 2018



# Containers & Growing Medium





# DIY Growing Medium

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## UC Davis Arboretum Recipe

- 1 part ground sphagnum peat
- 1 part uniform coarse sand (no silt)
- 2.5 parts white pumice
- 1 part redwood compost

Very low in organic material.

# Specialty Mix Blends

Cactus & Succulent Example:  
pumice, aged fir bark, aged redwood and sand





# Advantages of Containers



- Drainage: Fast, no standing water
- Soil: Porous, coarse aggregate, low organic content
- Location: Sheltered from frost, harsh sun
- Mobility: Can be relocated with changing conditions
- Style: Size, shape, color, form to suit plants and preferred style

# Vertical Gardening – Design Demo





# Outdoor Vertical Propagation Containers

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# Planning Your Container

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- **KNOW YOUR PLANT(S):** Research plants' needs: Water, light, exposure, drainage, fertility, eventual size.
- **GROUP PLANTS** with similar requirements.
- **CHOOSE A CONTAINER** compatible with plants' shallow roots (or modify) and design style desired.
- **ARRANGE PLANTS** for size and color.
- **PLANT GENTLY**, from tallest/largest to smallest/lowest.
- **PLACE** container where plants will receive appropriate light and shelter. Turn if needed to prevent elongating toward light.



*designwithdiversity.com*

# Design

Location

Function

Form

Style

Color

Repetition



Formal or  
whimsical



Repetition



# Considerations for Planting in the Garden

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## Location:

- Higher ground: Mounds or slopes for improved drainage and frost protection.
- Morning light or shelter from hottest sun.
- Bright light shade for Dudleyas and other plants from coastal areas.
- Generally, at least 3 hours of sun or bright light to avoid elongation.
- Fast-draining soil. Plant rosettes at an angle to allow centers to drain.
- Shelter from rain during dormancy (Best if bright, dry, and cool.)

## Function:

- Structure/"bones", filling middle ground, ground cover?
- Near parking, path, or play area? No sharp points please!



Location/Function/Scale: Near paths? Foot traffic? Small tight area?

# Style

**Dense, varied, colorful**



**Open, airy, serene**





Form and  
Repetition



Plan ahead  
**or**  
Plan to redo!



# Maintenance

## How Do I Take Care of This Thing?

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- The positive is - growing succulents requires very little maintenance!
- Watering & Fertilizing
- Light (Read plant labels, reference literature)
- IPM – snails, slugs most common
- Grooming
- Re-potting

# Self Propagation – plant does it on its own

- Air Rooting



## Offsets





# Are You Ready?

## Vegetative Plant Propagation

- ✓ Pots
- ✓ Succulent-Cactus Potting Mix for Rooting
- Tools
- + Gloves
- Disinfect
- Rubbing Alcohol
- or
- Mix 1 part bleach + 9 parts water





# Select Healthy Cuttings

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## Shoots, Stems

- Tip cuttings – 2- to 6-inch piece of stem with terminal bud
- Medial cuttings – cut above & below nodes (“eyes”) with axial buds

## Leaves

- Whole leaf with petiole or without
- Leaf section

# Leaf





# Propagation from Leaves

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- Let leaf dry out in shady location 2 – 7 days  
Optional – Dip basal end in rooting hormone
- Lay leaf on top of moist soil/potting mix
- Place in warm airy location, keep soil moist & mist leaves
- Small roots appear and new succulent plant will appear at base
- Plant being careful not to disturb roots, old leaf can be removed
- Reduce watering as plant develops



# Propagation of Stems - Demo

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- Let cutting dry out in shady location
  - Cut ends need 1 – 2 days drying time
  - Optional – Dip cut end in rooting hormone
- Plant in moist soil/potting/rooting mix
- Place in warm airy location, bright indirect light
- Mist as needed to keep soil mix slightly moist
- Mist leaves
- Reduce watering as plant develops roots



# Additional Prop. Techniques

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## Layering

- Tip layering
- Simple layering
- Compound layering

## Other

- Stolons or runners (Spider plants)
- Offsets (rosetted succulent types)



# UC MG WEBSITE NAVIGATION

Go to UCMG website  
<http://napamg.ucanr.edu/>

For more research based gardening information from University of California  
**Go to Gardening Resources**

For slides and references for this workshop and other past events  
**Go here**

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Master Gardeners • Napa

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## UC Master Gardeners of Napa County

If you are having trouble viewing graphics on this page:  
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The Master Gardener program is a volunteer organization associated with the University of California Cooperative Extension. *Our mission is to extend research based knowledge on home horticulture, pest management, and sustainable landscape practices to the residents of California and to be guided by our core values and strategic initiatives.*

**Become a Master Gardener!**  
Click for info about the 2020 class!

**Fall Faire**

Master Gardeners Calendar

Event Name
Guided Tree Walk - Napa
Guided Tree Walk - Yountville Cancelled
Cool Season Vegetables-now is the time to plan & start - Napa
Growing Cool Season Vegetables Yountville

Home

Become A Master Gardener

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Fuller Park Trees Walk

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Gardening Resources

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References and Slides Workshops and Events

Tomato Info  
CLICK HERE!  
Locally Grown 25+ Varieties

Each link opens a new page with more links. Just click on the items you'd like to investigate

**TAKE TIME TO EXPLORE ALL THE LINKS ON OUR WEBSITE**  
**WE HAVE LOTS TO OFFER!**



# References

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## Books

- Brenzel, Kathleen, Ed. The New Sunset Western Garden Book, Time Home Entertainment, 2012.
- Baldwin, Debra Lee. Designing with Succulents Timber Press, Portland, OR, 2007.
- Kelaidis, Gwen Moore. Hardy Succulents, Storey Publishing
- Schulz and Kapitany, *Succulent, Care and Health*
- Silver, *The Bold Dry Garden*
- Sunset Easy-Care Succulents, December 2017
- Sunset Western Garden, September 27, 2012 Edition

## Websites

- [succulentguide.com](http://succulentguide.com)
- [succulent-plant.com](http://succulent-plant.com)
- [debraleebaldwin.com](http://debraleebaldwin.com)
- <http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=23262>
- [http://sonomamg.ucanr.edu/Top Plants Category Parent/Succulents/](http://sonomamg.ucanr.edu/Top_Plants_Category_Parent/Succulents/)
- <http://acmg.ucanr.edu/succulents/>
- <http://ucce.ucdavis.edu/universal/printedprogpageshow.cfm?pagenum=6142&progkey=2080&county=5576>

## A list from the UC Botanical Garden:

- <http://ucbglcs.blogspot.com>
- <https://debraleebaldwin.com/echeveria-varieties-labeled/>
- <https://shopsucculents.com/pages/succulent-plant-types>