

Growing and Enjoying Succulent Plants

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What is a Succulent?

- **Succulent:** plants that store water in fleshy stems and leaves for use during the dry season
 - Many different plant families represented
- **Cactus:** also plants that store water, but have prickly or hairy coverings and lack leaves
 - All cacti are in family Cactaceae
- All cacti are succulents, but not all succulents are cacti
- Both have a thick, protective “skin” to reduce water loss from evaporation
 - Exceptions: Some succulents lack leaves/have spines, and some cacti have leaves/lack spines

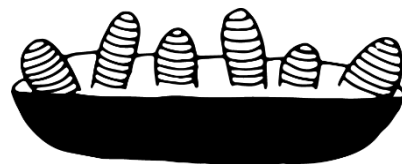
Why Grow Succulents?

- Advantages over traditional houseplants:
 - Require little water and fertilizer
 - Unique and interesting colors and textures
 - Many have a powdery bloom (called farina) that gives them a silvery coloration
 - Some will flower, but mostly grown for their foliage, stems, or thorns
 - Easy to propagate, multiply, and share! A fun way to spread the plant love!
 - With proper care, plants can become life-long companions
- Disadvantages:
 - Require bright light to be happy and healthy
 - Can acclimate to lower light levels
 - Can add supplemental lighting
 - Can “kill them with kindness”



How to Grow Succulents:

- **Growing Conditions:**
 - **Light and Temperature**
 - Put them in the brightest spot you can provide
 - Can become leggy or stretched-out if light levels are too low
 - Indoor succulents may not exhibit the same coloration as succulents grown outdoors
 - Ultraviolet light can enhance the production of red and purple pigments in succulents
 - Window glass filters out most UV light
 - **Temperature**
 - Happy at normal room temperature (65-75F)
 - Will dry out faster in a warmer house, and dry out slower in a cooler house
 - Cool temperatures (like below 50F), can also enhance color
 - **Water**
 - The easiest way to kill a succulent is to over-water!
 - Don’t “kill them with kindness”
 - Look for the signs that they need water:
 - Leaves or stems soften and become slightly wrinkly



- Soil surface looks dry, and is dry all the way to the bottom
- Pot feels light-weight when lifted
- In most home settings, succulents should need water once a week or less.
- **Growing Media/Potting Mix**
 - Use only potting mix that is soil-less/soil-free
 - Garden soil (A.K.A. “dirt”) should not be used for any indoor plants
 - Potting Mix:
 - Sterile, light-weight
 - May hold too much water for succulents
 - Can purchase “Cactus soil” with extra drainage
 - Can increase drainage of regular potting mix (and reduce the chance of over-watering) by adding sand, grit, or perlite
- **Fertilizer**
 - Most succulents are slower growing than your average houseplant and don’t need as much fertilizer
 - Fertilize during the growing season (summer)
 - Many succulents slow down or go dormant in winter
 - Stop fertilizer during winter, could cause leggy growth
 - Any water-soluble all-purpose fertilizer is fine
 - Fertilize no more often than once per month
- **Pests and Diseases**
 - Due to their “thick skin”, most succulents are pretty resistant to most pests
 - Mealy Bug- Dab or wipe with rubbing alcohol
 - Aphids- Generally found on the tips/newest growth. Crush and wipe/spray off with water
 - Rot- Water less, amend soil, can sometimes salvage a rotting succulent
- **Give Your Succulents a “Vacation”**
 - Move outdoors during the summer
 - Move outside after risk of frost is over (usually after Memorial Day), move back inside before night temps drop below 50F (usually around end of September)
 - Higher light, warmer temps
 - Grow new leaves/branches, bulk up, color up
 - May never have to water them
 - Things to Consider:
 - Can get sunburn!
 - Slowly transition outdoors
 - Expect some loss of vigor when transitioning back inside
 - Can pick up pests outside
 - Inspect and clean before moving back inside

How to Propagate Succulents:

- **Seed Propagation**
 - Some varieties flower very rarely, so seed production can be limited
 - Example: Century Plant
 - Seed not readily available
- **Vegetative Propagation**
 - Generally very easy! Much faster than seed propagation.



1. Leaf Cuttings

- Only need a single leaf, gently pull leaf off stem, keeping base of leaf intact
- Lay leaf on top of soil, OR stick end in soil
- The leaf will root, and eventually a new plantlet will form
- Can take several months to generate new roots, stems, and leaves
- The “mother” leaf will eventually shrivel up
- Not all succulents can be propagated from leaf cuttings
 - Examples: Aloe, Agave, some Senecio

2. Tip Cuttings

- Cut off the tip off a branch. The cutting contains part of the stem, with several leaves
- Much faster (2 to 5 weeks)
- Stem and leaves already present, just have to generate new roots

3. Plantlets, Pups, Offsets

- Refers to baby plants that sprout from the mother plant
- Can sprout almost anywhere on the mother plant
 - **Examples:** Aloe, Agave, Echeveria, Euphorbia, Gasteria, Haworthia, Kalanchoe, many cacti
- Plantlets connected by a runner can be cut off or pulled apart
- Plantlets connected directly to the mother plant:
 - If possible, twist and pull
 - Cacti/Euphorbia often heal better from a natural break than from a cut
 - Use tongs or tweezers for spiny cacti

General Care for all Vegetative Cuttings:

- Let cut-ends dry for 2 to 3 days before sticking
- Forms callus, prevents infection, prevents desiccation
- Stick cuttings or plantlets into sterile, damp, potting mix
- Can use rooting hormone, but not necessary
- Don't water again until completely dry
- Keep in a bright spot, but out of intense light/heat
- Cuttings should root in 3 to 8 weeks, depending on the growing conditions and varieties of cuttings



Where to buy cacti and succulents:

- Lowes, Home Depot, even Meijer and Walmart
- Local Garden Centers/Greenhouses:
 - Van Atta's, Smith Floral, Hyacinth House
- Online:
 - Ebay, Etsy (including unrooted cuttings)

- Mountain Crest Gardens
- Leaf and Clay
- Altman Plants
- CactusStore.com (seeds)
- Trade/Share with Friends
- Houseplant and Succulent Sale at the MSU Gardens—check [MSU Horticulture Gardens website](#) for upcoming events

