Horticulture Newsletter



Is Aloe Vera a Cactus or Succulent: Classifying the Aloe Plant

Aloe is one of the most famous houseplants. Growing aloe vera plants in homes is more and more common due to their low requirements. Since the terms 'succulent' and 'cactus' are common, the question arises whether Aloe vera is a cactus or a succulent.

Is Aloe Vera Plant a Cactus or a Succulent?

Very often, the question arises whether aloe vera is a cactus or a succulent. All cacti are succulents, but not all succulents are cacti. Put, cacti are succulents with thorns. Even though aloe vera leaves have small thorns on the edges, they are not considered a type of cactus. Aloe vera belongs to Asphodelaceae (Liliaceae) family. <u>Aloe vera</u> is a shrubby or arborescent, evergreen perennial, xerophytic, monocotyledonous succulent, green color plant.

Like all succulents, aloe vera plants can store water in their leaves. The accumulation of water in the tissues allows aloe vera plants to survive during long periods of drought that prevail in the arid environments in which they naturally occur. The stored water is then gradually used up by the aloe vera plant during periods of drought.



Figure 1. The monarch butterfly is an iconic species that is highly regarded by the public (Photo: Ric Bessin, UK).

Resistance to lack of water has made the aloe vera plants readily cultivated as potted plants. Aloe plant doesn't require direct sunlight. Aloe plants grown indoors can survive for a long time if appropriate care is given.

What Kind of Plant is a Cactus?

The natural area of occurrence of cactus plants from the Cactaceae family is the dry climates of North, Central, and South America. The exception is plants of the genus Rhipsalis. They can be found in large part in North Africa. Cacti accumulate water in their stems, so they are called stem succulents. They differ from other succulents in that they have an areola. In addition to thorns - shoots, flowers, and cacti fruits also grow from the areola.Cacti develop a shallow, extensive root system that allows them to penetrate the soil extensively in search of moisture. The cactus's roots grow in width, which increases the chance of obtaining sufficient water from dew or rainfall. The reduction of leaves in cacti results in a reduction of the transpiration surface. The fleshy part of the cactus family plants are stems, which store water and take over the assimilation function after leaf reduction. Leaves with an assimilative function with a leaf blade typical of dicots develop plant species only within the genus Pereskia.

Plants from the genus aloe are considered the easiest to grow and are an ideal solution for people who forget about regular watering. The best place for cacti will be a sunny position with an ambient summer temperature. Some cacti growing in natural conditions are under complete protection, such as Cephalocereus sinensis growing in the Valley of the Elders in the USA.



Mary Dossett Agent for Horticulture Advisor for McCracken County Extension Master Gardeners



Savannah Gilbert Horticulture Assistant

https://mccracken.ca.uky.edu/

Most Popular Cacti

- The old man cactus (Cephalocereus sinensis)
- The golden barrel cactus (Echinocactus grusonii)
- Monstrose apple cactus (Cereus peruvianus 'Monstruosus')
- Pincushion cactus (Mammilaria)
- Red cap cactus (Gymnocalycium mihanovichii friedrichii "Rubra")
- Bunny ears cactus (Opuntia microdasys)
- Christmas cactus (Schlumbergera truncata)
- Mistletoe cacti (Rhipsalis)

What Kind of Plant is a Succulent?

Succulents are plants with fleshy, often colorful, thick leaves. They belong to the group of xerophytes that have adapted to live in conditions of limited water availability. Therefore, they tolerate extended periods of drought well. They can store excess water in the aquifer located in the stem (stem succulents), root (root succulents), or leaves (leaf succulents).



Aloe vera plantation in its natural semi-desert habitat.

The surface root system of succulent plants enables efficient water intake during rainy periods. Succulents, similarly to cacti, have structural features and mechanisms protecting against water loss, e.g., waxes on the skin's surface, leaves transformed into thorns, stomata closed during the day, and thick cuticles. Most Popular Succulents

- Aloe vera (Aloe barbadensis)
- Century plant (Agave)
- Jade plant (Crassula ovata)
- Mexican snowball (Echeveria)
- Spurge (Euphobia)
- Ox-tongue (Gasteria)
- Haworthia
- Lifesaver cactus (Huernia)
- Kalanchoe
- Stonecrop (Sedum)
- Groundsel (Senecio)

Are All Cacti Succulents?

Due to their anatomy, all cacti are stem succulents, but not all succulents are cacti, even though many have become very similar to their spiny cousins.

What's the Difference Between a Cactus and a Succulent?

Both cacti and succulents prefer similar growing conditions: a sunny position, well-draining soil, and a small amount of water in the substrate. They do not tolerate root flooding and frost. When grown in pots, succulents are more tolerant of indirect sunlight. Cactus prefer a sunny location. Well-lit window sill with the full sun will be perfect when grown indoors.

The fundamental differences between a cactus and a succulent focus mainly on their anatomical structure. Primarily external appearance and method of reproduction.

Leaves Versus Spines

The most noticeable difference between a succulent and a cactus is the lack of thorns in succulents. The thorns are gathered in minor white points visible on the cactus stem - areoles. Unlike cacti, succulents do not produce areoles. It is one of the main differentiating features between cacti and succulents.



Old man cactus produces two types of thorns: traditional, like other cacti, and hair-like, which additionally protect it from the intense sun.

Flowers

Many cacti produce large, fragrant, bright flowers that bloom at night. Moths and bats pollinate cactus flowers that bloom at night. Day butterflies bees pollinate cacti that bloom during the day. Flowers of succulents are small, usually inconspicuous, and pollinated mainly by bees. After pollination, cacti bear fruits that participate in their reproduction and are absent in succulents.



Cacti produce flowers with intense colors because their task is to attract pollinators. Thanks to pollinators, they guarantee the survival of the species.

Stems

Cacti have fleshy stems adapted to store water and are capable of photosynthesis. On the other hand, succulents have thick, fleshy leaves adapted to water storage.

Summary

Although it resembles a cactus plant, the aloe vera plant is a succulent that accumulates water reserves in its leaves, which is why it belongs to leaf succulents. However, we should remember that not all succulents are cacti. Cacti are stem succulents.

There are many differences between succulents and cacti. Despite the different structures, sizes, or flowering methods, succulents and cacti are widely cultivated for their decorative qualities in the ground and containers. Ease of cultivation and low water needs make these low-maintenance plants recommended for beginner gardeners.



Aloe vera, like any succulent, propagates only by cuttings or division (vegetative propagation).

<u>WARNING—Topping is Hazardous to Tree Health</u> (PPFS-OR-W-32)

Once deciduous trees have lost their leaves in autumn, the damage from topping becomes all too evident. Topping is the drastic removal or cutting back of large branches in mature trees, much as a hedge is sheared, and large branches are left as stubs. Not only are topped trees unsightly, but this practice negatively impacts tree health and reduces their value.



This fact sheet discusses the reasons trees may be topped, how topping is detrimental to trees, and alternatives to topping.

WARNING—Topping is Hazardous to Tree Health (<u>PPFS-OR-W-32</u>) is available online. For additional publications on problems affecting woody ornamentals, visit the UK <u>Plant Pathology Extension Publications</u> webpage.

By Cheryl Kaiser, Plant Pathology Extension Support





EPA Webinar: Trees for Bees and Other Pollinators

Trees play an important role in the health of bees and other pollinators. They provide nutritious nectar and pollen which is critical for maintaining robust and healthy pollinator populations between spring and fall. This free webinar will highlight the value of trees as well as ways to reinforce and expand the presence of pollinator-friendly trees and shrubs. This webinar will be offered on Jan 14, 2:00 PM to 3:30 P.M. ET. This webinar has one speaker: Mike Connor, Certified Arborist, Honeytree Arborist Services. The presentation will be followed by a question-andanswer session.

Participants will:

- Learn about the relationship between pollinators and trees.
- Learn how to select the appropriate trees for the environment.
- Learn about proper planting techniques to ensure the health of the tree.



Kentucky pesticide CEU credits have been applied for, so, by attending this session, you can earn free CEU credit that can be used to help renew your commercial pesticide certification.

You will need to preregister for this webinar.

Neopestalotiopsis Disease of Strawberry (PPFS-FR-S-12)

Neopestalotiopsis disease is a new and very serious threat to strawberry production in Kentucky. First appearing here in 2024, this disease has been spreading rapidly throughout the Southeastern U.S. since it was diagnosed in Florida in 2018. Extensive damage results when leaves, fruit, and crowns become infected.

While research on Neopestalotiopsis disease is still ongoing, a new Plant Pathology Extension fact sheet was recently developed to address what is currently known as it applies to Kentucky growers. Importance, symptoms, signs, diagnosis, cause, disease development, and management information are included, along with suggested spray.



Nicole Gauthier, Plant Pathology Extension Specialist Cheryl Kaiser, Plant Pathology Extension Support

IMPORTANCE

Neopestalotiopsis disease (FIGURE 1) was identified in a single plasticulture planting in Florida in 2018 and has since spread rapidly throughout the Southeastern U.S. and Canada causing extensive damage. This disease (hereafter referred to as Neopest disease) was first identified in Kentucky in 2024. Disease can affect all plant parts, reducing yields and resulting in plant death.

Research is ongoing, and there is still much that is not understood about this disease's origin, spread, and management. This publication outlines what is currently known as it applies to Kentucky growers.



leaves, fruit, roots, and crowns. Leaves The earliest indications of Neopest disease are leaf spots appearing on older leaves, particularly as new strawberry plants are establishing. Spots are circular, light to dark brown with a darker margin (Ficures 2A and 2B). As spots enlarge, they become irregularly shaped, and centers become tan-colored. Spots

SYMPTOMS & SIGNS

All plant parts can be affected by Neopest disease:

light to dark brown with a darker margin (FiGURES 2A and 2B). As spots enlarge, they become irregularly shaped, and centers become tan-colored. Spots eventually coalesce; spots that reach leaf margins become V-shaped (FiGURE 2C). Dark spore-producing structures (acervuli) develop in the tan centers of older lesions

the tan centers of older lesi (FIGURE 2D).

Leaf symptoms can easily be confused with other strawberry diseases, such as leaf blotch, Phomopsis leaf blight, common leaf spot, or leaf scorch. However, only Neopest disease symptoms include the presence of acervuil.

FIGURE 1 NEOPESTALOTIOPSIS (NEOPEST) DISEASE AFFECTS ALL STRAWEBERRY PLANT PARTS, INCLUDING LEAVES, FRUIT, CROWNS, AND ROOTS, RESULTING IN REDUCED YIELDS AND PLANT DEATH. SYMPTOMS CAN EASILY BE CONFUSED WITH OTHER STRAWBERRY DISEASES.

riculture & Natural Resources + Family & Consumer Sciences + 4:H/Youth Development + Community & Fronomic Development

Neopestalotiopsis Disease of Strawberry (PPFS-FR-S-12) is available online.

For publications on small fruit diseases, visit the UK Plant Pathology Extension Publications webpage.



New field guide offers tools to combat Kentucky's invasive plants

Source: Ellen Crocker, Department of Forestry and Natural Resources assistant professor

The University of Kentucky Department of Forestry and Natural Resources has released a Field Guide to Kentucky's Invasive Plants, a comprehensive resource aimed at helping landowners, conservationists and forestry professionals identify and manage invasive plant species across the state.

This guide provides detailed profiles of the most prevalent invasive trees, shrubs, vines, grasses and herbaceous plants that threaten Kentucky's ecosystems. Each species is presented with full-color photographs, information about its origins, distribution, threats to native biodiversity and effective control methods. From the hardy callery pear to the pervasive kudzu vine, the guide highlights the threats these species pose to forests, fields and waterways.

The book also emphasizes practical management techniques, offering guidance on hand removal, herbicide application and integrated approaches tailored to site-specific conditions. Special attention is given to balancing ecological health with practical land management goals, ensuring that users can address invasive species responsibly and effectively.

The Field Guide draws on a wealth of expertise from contributors across specific regions, including the board members of the Kentucky Invasive Plant Council. It builds on an earlier pocket guide with updated content and new species profiles, reflecting the evolving landscape of invasive plant management.

Key features include:

- Species profiles: Clear descriptions and images to help with identification.
- Control strategies: Step-by-step recommendations, from manual removal to chemical treatments.
- Regional relevance: Focused on the invasive plants most common to Kentucky and neighboring states.

Whether you're a landowner grappling with autumn olive or a forest manager tackling multiflora rose, this guide serves as a practical reference for maintaining healthy ecosystems. As invasive plants spread, these resources are critical in equipping communities with the knowledge and tools to protect their natural heritage.

To obtain your field guide visit forestry.ca.uky.edu/articles/for177-field-guide-kentuckys-invasiveplants <u>or</u> contact McCracken County Extension office.





Getting started with composting

Source: Rick Durham, Department of Horticulture extension professor

Composting is a great way to add valuable organic matter to your soil while reducing the amount of yard and food waste that ends up in landfills. It's also something that is remarkably easy to do.

Compost is the result of a natural process where decaying organic substances, such as plants, are broken down by microorganisms. This produces a nutrient-rich, organic material that you can apply to your lawn or garden, much like you would a commercial fertilizer.

You can start a compost bin or pile in your backyard. You can purchase a bin or make one using inexpensive, leftover materials like pallets or chicken wire. The bin can be as big or small as you want, but for most rapid composting, a pile that is at least one yard tall, one yard wide and one yard long is best. Make sure to place your compost in an area that is flat and well-drained.

When the compost area is ready, collect yard waste and food scraps. Yard waste can include twigs, shrub trimmings, grass clippings, leftover straw and leaves. Most fruit, vegetable and grain scraps are compostable as are coffee grounds, herbs, nuts and egg shells. Avoid meat scraps, oils and dairy products. You need to have a mixture of "brown" material (dried leaves, straw, twigs, coffee grounds, even cardboard) and "green" materials (fresh grass clippings, vegetable scraps, other fresh plant materials) for the composting process to work.

Mix or turn the pile once a week to help speed the breakdown of organic materials. If the compost pile is extremely damp, turn it more often. If it is dry, add some water or fresh plant material. It can take four to six months to complete the composting process. You will know it's finished when the compost is dark brown, crumbly and smells like soil.

Compost can be used in the vegetable garden or spread around ornamental plants in the landscape, but be careful not to use too much. A one-inch layer of compost, worked into the top few inches of soil, will feed plants for several months.

More information on composting or other gardening tips is available at the McCracken County Extension Office of the University of Kentucky Cooperative Extension Service.





Lichens in Landscape Plantings (PPFS-GEN-20)

Lichens are fascinating and complex living organisms that are composed of multiple organisms growing together for the mutual benefit of one another. Lichens can grow in colonies on pretty much any substrate anywhere on Earth. Frequently found on rocks, fences, tombstones, and soil, lichens cause the most concern when present on living trees and shrubs. While often found on woody plants in poor or declining health, they are not causing the decline; lichens are neither pathogenic nor parasitic.

This publication discusses the biological components in lichens, where they grow, concerns related to lichens, types of growth habits, and what should (and should not) be done when found on landscape plants.

Lichens in Landscape Plantings (<u>PPFS-GEN-20</u>) is available online.

For additional publications on diseases and other issues affecting landscape plants, visit the UK <u>Plant</u> <u>Pathology Extension Publications</u> webpage.

By Cheryl Kaiser, Plant Pathology Extension Support, and Paul Vincelli, Plant Pathology Extension Specialist



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Super Crunchy Salad

 ³/₄ cup pepitas (raw pumpkin seed kernels)
Cooking spray
¹/₄ teaspoon ground cayenne pepper
Salt and ground black pepper to taste pound Brussels sprouts, trimmed and thinly sliced
pound curly kale, stems removed and thinly sliced
pound Napa cabbage, thinly sliced
cups dried cranberries
(15-ounce) can Mandarin oranges, drained

Place pepitas in a bowl and coat lightly with cooking spray. Sprinkle with cayenne pepper, salt and pepper. Toss to coat. Place in a medium skillet over mediumhigh heat. Cook over medium heat, stirring often until lightly toasted, about 5 minutes. Remove from heat and allow to cool. Combine Brussels sprouts, kale, cabbage, dried cranberries, Mandarin oranges, green onions, strawberries and toasted pepitas in a large bowl. Dressing: Whisk together the bottled poppy seed dressing, orange zest, and orange juice in 4 green onions, thinly sliced 8 strawberries, trimmed and thinly sliced

1 (16-ounce) bottle creamy poppy seed dressing

1 tablespoon orange zest Juice from 1 orange

a small bowl. **Pour** over salad about ½ cup at a time and **toss** until salad and dressing are combined.

Note: Sunflower seed kernels can be substituted for pepitas. Green or red cabbage can be substituted for Napa cabbage.

Yield: 10, 1¹/₂ cup servings

Nutritional Analysis: 300 calories, 12 g fat, 2 g saturated fat, 0 mg cholesterol, 430 mg sodium, 43 g carbohydrate, 5 g fiber, 33 g sugar, 6 g protein.

Disease Management in Residential Lawns (PPFS-OR-T-11)

A number of infectious diseases may occur in residential lawns in Kentucky. Unless diagnosed and managed, these diseases can result in extensive damage. A sound disease management program can benefit lawns by reducing disease severity and improving recovery should a disease outbreak occur.



This newly revised publication focuses on cultural practices that help prevent and/or manage diseases occurring on common residential turfgrasses. Content incudes diagnosing turfgrass problems, disease management practices, and additional resources.

Disease Management in Residential Lawns (<u>PPFS-OR-T-</u><u>11</u>) is available online.

For more UK turfgrass publications, visit the <u>Plant</u> <u>Pathology Extension Publications</u> and <u>Plant and Soil</u> <u>Sciences Turfgrass Science</u> webpages.

By Cheryl Kaiser, Plant Pathology Extension Support, and Paul Vincelli, Plant Pathology Extension Specialist



2025

48th Annual Kentucky Turf & Landscape Management Short Course

February 18-20, 2025

Hardin County Extension Center 111 Opportunity Way Elizabethtown, KY





Extension Service

2025 HORTICULTURE PROGRAMS

"EVERGREENS" 5pm-6pm" PROPAGATION



Join us at Evergreens Coffee Shop for a program on plant propagation! This program will NOT be at the Extension Office. Please RSVP by calling (270) 554-9520.

FEBRUARY 4TH, 2025

Evergreens Coffee Shop 4677 Alben Barkley Dr. Paducah, Ky 42001

> MARY DOSSETT, HORTICULTURE AGENT

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2025 Horticulture Programs

5:00 - 6:00 P.M.

McCracken County Extension Service 2025 New Holt Rd Paducah, KY 42001 Please RSVP for each program by calling (270) 554-9520



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