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Dumb cane chinese evergreen

Aglaonema and Dieffenbachia (members of the plant family Araceae) are popular tropical foliage plants. In order to develop new ornamental Aglaonema and Dieffenbachia cultivars, plant breeders must be able to overcome breeding barriers. Ability to control flowering, effect successful pollination and secure seed production are essential for hybridization of these crops. Figure 1. Dieffenbachia 'Triumph' (1985) was the first hybrid released by the University of Florida MREC-Apopka Foliage Plant Breeding Program. Commonly known as dumb cane, the genus Dieffenbachia includes about 30 species native to the tropical forests of Central and South America. The chromosome number of most Dieffenbachia species is 2n = 34. Although some Dieffenbachia plants may cross-pollinate in the wild, directed interspecific hybridization by breeders is the primary means of generating new commercial cultivars. Academic and private commercial breeding programs that develop Dieffenbachia have focused on novel leaf variegation patterns and on increased branching to give the plant a full appearance. Almost 100 cultivars have been introduced over the years, but only about 20 Dieffenbachia cultivars remain consistently popular commercially. Nine hybrids have been released through the University of Florida MREC-Apopka Plant Breeding Program including 'Triumph', 'Victory', 'Tropic Star', 'Starry Nights', 'Star White', 'Star Bright', 'Sparkles', 'Tropic Honey', and 'Sterling'. When breeding for novel leaf patterns, inheritance of variegation is dominant over inheritance of non-variegation. A single dominant allele interacts with modifier genes to determine variegation patterns within Dieffenbachia. Multiple genes control basal shoot formation. For more information, the reader is referred to Henny 1988, Henny and Chen 2003, and Henny, et al 2004. Figure 2. Aglaonema 'Golden Bay' (2001) is a recent University of Florida MREC- Apopka Breeding Program hybrid with white petioles and bright foliar variegation. Commonly called Chinese evergreen, Aglaonema is one of the most widely used foliage plants due to its ability to tolerate low light and low humidity, and its resistance to diseases and pests. This crop has been commercially cultivated in Florida since the 1930s. The genus Aglaonema includes 21 species native to Southeast Asia. In the wild, Aglaonema species are open-pollinated. The base number of chromosomes is 2n = 6, with subsequent polyploidy in many cases. Aglaonema hybrids for ornamental foliage production are almost exclusively developed via interspecific hybridization within traditional breeding programs. The species A. nitidum, A. commutatum, A. costatum, and A. rotundum are commonly used in the interspecific hybridization work. Current breeding activities focus on generating novel foliage variegation patterns, new petiole colors, increased branching, and better chilling resistance. Popular hybrids from the breeding program at the University of Florida's MREC in Apopka include Aglaonema 'Silver Bay', which has a medium green leaf blade overlaid with a gray-green center; 'Emerald Bay', which has a white and green mottled stem; and 'Diamond Bay' displaying a bold central gray stripe against a dark green leaf blade. For more information, the reader is referred to Henny and Chen 2008; and Henny et al. 2003. Under natural conditions, Aglaonema and Dieffenbachia produce only 3 to 5 flowers per stem per year. Different species within each genus may not flower simultaneously. This potential barrier to breeding has been overcome by the use of gibberellic acid (GA3) sprays to stimulate flowering. Treatment consists of a single foliar spray of 250 to 1,000 ppm GA3. Flowers appear 90 to 120 days after treatment. Additionally, GA3 treatment increases the number of flowers produced per plant. This helps to ensure a sufficient supply of flowers for breeding purposes. With careful planning, different species of the same genus can be induced to flower simultaneously. (Henny, 2001). Both Aglaonema and Dieffenbachia have unisexual flowers (Figure 3 and Figure 4). Aroid inflorescences consist of a spadix enclosed by a spathe. The spadix is a fleshy spike covered with many small, unisexual flowers. The unisexual flowers contain male (staminate) flowers on the upper half of the spadix and female (pistillate) flowers on the lower portion of the spadix, with a small area between that may be devoid of flowers. Figure 3. Above is a close-up view of an Aglaonema inflorescence showing the male and female flowers. Figure 4. Above is a close-up view of a Dieffenbachia inflorescence showing the male flowers with pollen being shed and female flowers ready for pollination. To prevent inbreeding in their native habitat, both genera are dichogamous (male and female receptivity is not synchronous). The inflorescences of Dieffenbachia and Aglaonema exhibit protogyny (female receptivity occurs first). Female flowers on the spadix mature first and simultaneously. Then, approximately 2 days later, after the females on that spadix are no longer receptive; the male flowers of that spadix mature simultaneously and produce pollen. This discourages self-pollination. Receptivity of female flowers coincides with the unfurling of the spathe (Figure 5 and Figure 6). Spathes from these two genera normally begin to unfurl at night and pollination can occur any time during the following day. Receptivity of Aglaonema and Dieffenbachia flowers lasts at least 24 hours as evidenced by pollen germination studies. Female flower surfaces that have become discolored and soft are no longer receptive. Seed has been obtained from flowers of both genera pollinated one full day after spathe unfurling, but the number of seeds is smaller. Figure 5. Three stages of Dieffenbachia flowering including bud, anthesis and an inflorescence with the spathe removed for ease in pollination. Figure 6. Three stages of Aglaonema flowering including bud, anthesis and an inflorescence with the spathe removed for ease in pollination. To cross-pollinate Aglaonema and Dieffenbachia, it is necessary to obtain pollen from one inflorescence with ripe males and to manually transfer the pollen to another inflorescence that has receptive females (Figure 7). The pollen is not wind disseminated. Pollen transfer begins by using a small, soft brush to sweep pollen into a container. The same brush used to collect the pollen may be used for application of pollen to the female. First make the brush sticky by gently wiping it against the female stigmatic surfaces. Then dip the sticky brush into the pollen supply and lightly brush pollen grains onto the stigmatic surfaces of receptive flowers. Figure 7. Pollen of both Aglaonema and Dieffenbachia can be transferred using a soft brush. If pollen is in short supply, it can be stored in a container in a high-humidity environment in a refrigerator. Humidity affects pollen viability (Figure 8). Collect the pollen in a container such as a petri dish. Place the petri dish on top of a wet paper towel. Then enclose both the petri dish and the paper towel within a larger, sealed storage container. At no time should the pollen be directly in contact with the wet paper towel. Avoid splashing water droplets onto the pollen. Aglaonema and Dieffenbachia pollen is short-lived, and germination ability declines within 1 to 2 days of storage. It is always best to use fresh pollen. Figure 8. Dieffenbachia pollen does not germinate at low relative humidity (above left) compared to excellent germination at 100% relative humidity (above right). Following pollination, Dieffenbachia flowers require 100 percent relative humidity for pollen to germinate. This can be done by wrapping the entire spadix with moistened paper toweling and enclosing it in a plastic bag. The wrap is removed the next day so that it will not interfere with pollen production on the upper portion of the same flower. Pollen germination in Aglaonema is greater when provided high humidity, but Aglaonema pollen is not as sensitive as Dieffenbachia pollen. Figure 9. A newly pollinated Dieffenbachia inflorescence is wrapped in wet paper towel and enclosed in a plastic bag for 24 hours to ensure pollen germination. Pollinated Dieffenbachia flowers develop mature fruits within 4 to 5 months. Aglaonema fruits mature in 4 to 6 months, although some hybrids have taken up to 1 year to develop ripe fruit. In both genera the seed coat turns bright red when the seed is mature. Figure 10. The reddish coloration of these developing seed on a Dieffenbachia plant indicates they are nearly mature. To enhance germination, separate the mature seeds from the spadix. This is to lessen the chance of disease contamination from decaying fruit. Both Dieffenbachia and Aglaonema have large seeds, and the fleshy seed covering should be removed from the red, berry-like fruit before planting the seed. Keep cleaned seeds moist and plant them before they become dry. High germination is achieved if seed are sown on top of a moist potting medium containing up to 50 percent peat moss by volume, and covered with plastic to prevent drying. Aroid seed begin to grow as soon as they are sown. The medium should be kept at a minimum of 70°F. Seedlings should be transferred to individual pots after the first true leaves are produced. Most aroid seedlings require 1 year of growth before they are large enough to be evaluated. Henny, Richard J. 2001. Tips on Regulating Growth of Floriculture Crops. Foliage Plants Editor; Michelle, Gaston Columbus, Ohio: Ohio Florists Association, pp. 83-87. Henny, R.J. 1988. Ornamental aroids: culture and breeding. In J. Janick (editor), Horticultural Reviews Vol. X., Timber Press, Portland, Or. Inc. p. 1-33. Henny, R.J. and J. Chen. 2008. New Plant Introductions Drive Markets . Henny, R.J. and J. Chen 2003. Foliage plant cultivar development. Plant Breeding Reviews 23:245-290. Henny, R.J., D.J. Norman, and J. Chen. 2004. Progress in ornamental aroid breeding research. Annals of the Missouri Botanical Garden 91:465-473. One of my favorite groups of plants is the aroid family Araceae. This family has brought us so many wonderful indoor plants.Everything from Philodendrons, Spathiphyllum (aka Peace Lily), Anthurium, Pothos (Epipremnum) plants, Alocasia, Dieffenbachia plant, and Aglaonema, the Chinese evergreen plant, with dozens of others.Chinese evergreen is a popular foliage plant used in homes and offices. Aglaonemas' natural habitat is the tropical forests in Southeast Asia.Chinese evergreen is also known as Aglaonema, which is a plant genus belonging to the family Araceae.Aglaonema is pronounced [ag-lay-oh-NEE-muh], and it's considered a perennial plant.The common name 'Chinese evergreen' refers to 21 species of plants typically grown for their highly ornamental value. These exist in various shades ranging from green to dark green, silver, or gray depending on the species and cultivar.Chinese evergreen is also called painted drop-tongue. The most popular Aglaonema for decades has been "Silver Queen." Many new varieties have been introduced over the past few years. The following are a few of its popular cultivars according to the University of Florida breeding program:Diamond Bay - has light green foliage with solid green margins.Moonlight Bay - has medium green leaves with bold silver markings.Emerald Bay - has silvery-green leaves with darker dapples along the margins.Stripes - has foliage with alternating bands of green and silver.A couple of other varieties to keep on the lookout for are:Aglaonema "Jewel of India"Aglaonema "Red Siam"If you're planning to add one of these delightful popular houseplants to your home or garden, consider the following Chinese Evergreen care tips.Chinese Evergreen CareIf you've been successful with Dieffenbachia care, the Chinese evergreen will perform well.NOTE: The Aglaonema is one of the Top Plants for a windowless bathroom!Size & GrowthA mature plant of Chinese evergreen generally will grow between 1' to 3' feet tall and equally as wide. However, the leaves are long and narrow, growing to reach up to 2' feet long.The leaves of Chinese evergreen plants grow at the tip of the stalks. Their shapes are either linear (elongated with parallel sides) or oval.Chinese evergreens are slow-growing plants and take a long time to reach their maximum growth. It's also extremely resilient, tolerating poor light, dry air, drought, and air-conditioning like a champ.Flowering and FragranceThe Chinese evergreen plant flowers during summer once it reaches maturity in growth and age. It produces tiny flowers that turn into berries later on. If these berries do make an appearance, they'll grow between the leaves, and many gardeners don't mind them.The flowers of the Chinese evergreen plant look like peace lilies as they consist of a spathe and spadix. Some people don't appreciate the aesthetic of the berries the flowers develop, so they remove the flowers wherever they come about.Light & Temperature RangeThe Chinese evergreen plant thrives in medium to low light conditions. It likes indirect sunlight or filtered sunlight and doesn't do well when exposed to direct sunlight.NOTE: Aglaonemas grow well under fluorescent lighting.If you decide on placing your plant indoors, make sure that the plant receives moderate to low light, warm temperature, and relatively humid conditions. Still, this plant is quite durable, so it'll endure unfavorable conditions if necessary.Ideally, the Chinese evergreen plant prefers indoor conditions with temperatures ranging between 68 ° to 77 ° degrees Fahrenheit (20 °C to 25 °C). Although they don't like temperatures below 60 ° degrees Fahrenheit (16 °C), they can tolerate temperatures as low as 55 ° degrees Fahrenheit (13 °C).For indoor environments, the ideal temperature average for Chinese evergreen plants ranges between 70 ° - 72 ° degrees Fahrenheit (21 °C to 22 °C). Be sure to keep your Chinese evergreen plant away from cold drafts to avoid unattractive browning of the foliage.Watering Schedule and Liquid FertilizerThere's no serious schedule to stick to when it comes to watering and feeding the Chinese evergreen plant. These durable plants don't require much water, so water them only when the top inch of the soil is dry to touch.Reduce the frequency of watering in the winterRemember not to overwater your plantToo much watering leads to possible root rotAlways use a pot or container with drainage holesSpeaking of watering, Chinese evergreen plants thrive in average to high humidity conditions. If the room has artificial heating, increasing the humidity levels will boost plant growth and prevent drying and shriveling up of the leaves.As for feeding, it's best to feed your Chinese evergreen plants a diluted water-soluble houseplant fertilizer from spring until the end of summer.Soil & TransplantingThe soil requirements of Chinese evergreen plants are pretty simple - use well-draining soil. Preferably, provide peat-based potting soil combined with perlite or sand to enhance drainage. Any other well-drained potting mix will do fine.When it comes to transplanting, you'll probably need to re-pot once every couple of years during spring, the start of the growing season. In this case, either transfer the plant to a larger pot or divide it into two smaller plants then pot each one in a separate pot.Alternatively, you can cut off any leggy stalks then root them to make new plants.Grooming And MaintenanceThe Chinese evergreen house plants require little to moderate care. They have good tolerance to low light, drought, and dry air. You do need to pay attention to the temperature of its environment and make sure it doesn't drop too low.Read: What Causes Yellow Leaves On Chinese Evergreen?Aglaonemas sucker well, which helps them getting leggy, have good color, and handle the cooler temperatures.Other than that, this plant tends to accumulate dust on its leaves. To prevent such build-up, wipe down the leaves once a week with a soft, damp cloth.Related: Check out our collection of 30+ indoor houseplants for your home.How To Propagate Chinese EvergreenChinese evergreen propagates easily from stem cuttings.Using a knife or a pair of hand pruners, take stem cuttings about the size of a small finger - 6"-10" inches long.Dip the cuttings in rooting hormone powderPlace the cuttings in pots with moist soil.Cover the pot with plastic. We like using a soda bottle.Place the potted cuttings in indirect light or under artificial light.In a few weeks or so, root growth should begin.Once roots appear, remove the covering and treat the plants as you would the mother plant.Chinese Evergreen Pests or DiseasesAs with many other indoor plants, pests such as spider mites, scales, mealybugs, and aphids can attack the Chinese evergreen. We always treat pests first using Neem oil.Overwatering can lead to root rot, and adding too much fertilizer can cause leaf edge burn.Low Maintenance Chinese Evergreen AglaonemaOne of the best features The Chinese evergreen plant has is that they are very versatile and easy to care for if you know the basics.Plant in well-drained soil or potting mixFertilize with a houseplant fertilizer like 20-20-20When watering - water thoroughly but do not allow the plants' roots to sit in water.Place in locations where they do not get direct light.The aroid family has always been one of my favorites, and I started collecting them back in my teens. They hold a special place in my plant-growing history. Aroids are the plants that taught me "how to grow," and they can teach you too!

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