

Success With Your Aglaonemas Indoors

By Gary Antosh





Dedicated to all those...

who grow





My thanks go out to all that have **helped, encouraged** and **provided “critique”**.

To all the friends and growers...thanks for giving a read, providing input and support. Also, your dedication to growing and supplying great plants to help bring the outdoors in. [Tropical Computers](#) as well as the many nurseries that also supplied images.

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My family for your patience and support. Terri for reading and listening, Kristen and Kimberly for the “lost hours” behind the keyboard.



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Understanding Aglaonemas

Aglaonemas are **originally found in the tropical areas of Southeast Asia**. Probably the first Aglaonema grown was *Aglaonema modestum*. Modestum is seldom seen today and is limited to collectors.

The common name for Aglaonema is the **Chinese evergreen**. This wonderful group of plants earned its common name because the Chinese were the first to cultivate the dark green, slow growing *Aglaonema modestum* for centuries, before it slowly made its way to Europe and then America.

Today, we don't hear the common name used as much and the plants are simply referred to as Aglaonemas or Ag's. The name Aglaonema comes from the compound Greek words:

aglos = bright
nema = thread.

Aglaonemas are part of the (Aroid) Araceae family. This versatile and diverse family have brought us so many different plants for indoor use. What belongs to the aroid family besides Aglaonemas? How about **Spathiphyllum, Dieffenbachia, Philodendron, Anthurium, Zamiocaucas**, to name a few.

There are approximately 50 or so different species of Ag's. Most of these species are not grown commercially at all. However, there have been dozens of hybrids made, which is where most of today's commercially grown plants come from.

The names of some of these varieties can get confusing. The same variety may be marketed under different names or the same plant may be known by a different name in other growing areas. For instance, Aglaonema "B.J. Freeman" is also sold as Aglaonema "Cecelia" and Aglaonema "Gabrielle". Plants that are patented help solve some of the "name" problem.

Some Aglaonema History

Today's modern day Aglaonemas have **three distinct points of reference** when we look at new plant introductions.

- **1961-1970**
- **Collecting and Production**
- **1995-Present**

The Chinese were the first to cultivate the Aglaonema which was the species modestum. Things remained quiet in the world of Aglaonemas except for plant collectors.

1961-1970

Putting that aside, the period of 1961-1970 brought a **new fascination with indoor plants**. The foliage business was not yet mature but growing. People became interested in new foliage varieties. There was Bob Wilson of Fantastic Gardens in Miami, who was interested in all types of foliage plants. Fantastic Gardens was a haven for people to see unusual varieties of Philodendrons, Anthuriums, and staghorn ferns, to name a few.

Nat DeLeon of Miami, who is recognized around the world as **one of the finest plant breeders** (primarily bromeliads) also has a special interest in Aglaonemas. Nat's sons have a nursery about one mile from my home and although retired, he goes to the nursery everyday when he's in town and continues to hybridize bromeliads.

If you were to ask any grower of Aglaonemas, "**What is the number #1 grown Aglaonema in the world?**" Their answer would most likely be **Aglaonema "Silver Queen"**.

[Aglaonema "Silver Queen"](#) originated from a cross between *Aglaonema curtisii* and *Aglaonema treubii* made by Nat DeLeon. From there it was produced in large quantities by Bob McColley's Bamboo Nurseries in Orlando, Florida during the early 1960s. At that time Voster's Nursery another grower in south Florida also carried an extensive line of Ag's.

Aglaonema "Silver Queen"



Aglaonema "Silver Queen", a hybrid that was made about 40 years ago, is still one of the most popular indoor plants grown and sold today. During that 40 years, many plants have been introduced and fallen by the wayside. "Silver Queen" is a true testament to Nat DeLeon for **creating a truly great plant for indoor use**.

Nat has been inducted into the Florida Nurseryman and Growers Association Hall of Fame for his contributions to the plant industry. This includes his work with Aglaonemas, Bromeliads, and Palms as well as his work at the World Famous Parrot Jungle. But...In my opinion far too many growers have **never recognized** Nat for the many plants he has introduced (many more than you'll find referenced in this eBook). Too many growers are unaware of the history of one of the plants that has produced for them **their livelihood**.

Nat also produced other varieties that were commercially grown by others. Besides “Silver Queen” there was “Silver King”, “Parrot Jungle”, “Pink Goddess” and “Fransher”. I asked Nat... “Why did you start hybridizing Bromeliads and stop hybridizing Aglaonemas”?

The hybrids I made were very limited only by the species available... and there weren't too many. By the time more species were introduced, I turned to bromeliads exclusively since I had talked my sons to go into the Bromeliad business.

Nat DeLeon March 9, 2001

New varieties also came about by growers and collectors looking for mutations, breeding, and collecting.

The commercial growing of Aglaonemas during this period was limited to primarily “Silver Queen”, the species *commutatum* and a few other hybrids. Plants were grown in 3, 4 and 6 inch pots.

Collecting and Production

Collecting is where the **second part** of the “new” introductions of Chinese Evergreen comes into play.

The early 1970's was the real beginning of “plant fever” running across North America. People were buying plants for their homes and business. Hotels and malls were beginning to request and have plants installed.

New companies specializing in “interiorscaping” emerged and were looking and trying new plants indoors. During this period Aglaonema “Emerald Beauty” also known as Maria was introduced.

[Emerald Beauty](#) was originally collected in the wild on Palawan Island in the Philippines. The plant is much more compact with dark green foliage followed by bands of silver-gray laying on top. It is not as sensitive to cold as “Silver Queen” so it can be used in many other interior settings.

It is a slower grower and because of its compact habit it's better suited for “squat pots” or azalea pots. This addition was great for the interior market because it provided a durable, short, low light plant for use as a ground cover indoors. Emerald Beauty is still widely grown today for the interior market.

Aglaonema
Emerald Beauty / Maria



In 1974, Jim Vosters introduced two new tough and hardy Aglaonemas... [Aglaonema 'Abidjan'](#) a plant he found near Abidjan, Ivory Coast and Aglaonema 'Manila'. Both of these plants are in production today but sometimes under different names.

During the late 1980's [Aglaonema B.J Freeman](#) was introduced. It was first grown by George Behren of Fort Lauderdale, Florida. In 1987, Tropical Ornamentals of Delray Beach, Florida purchased all of his stock. Tropical Ornamentals (TO) as they're known in the industry, began to propagate and market successfully B.J. Freeman to interiorscape customers.

During this time TO also introduced something very new to the interior plant trade, and it wasn't a plant... it was growing and selling Aglaonemas in 10 and 14 inch pots. This simple production shift of growing what was considered a "small" plant in a larger pot changed the way Ag's were and have been used indoors ever since.

1995 - Present

The new flood of interest in Aglaonemas has come about during the mid-late 1990's. Over the last few years' 15-20 new varieties have been introduced. These introductions have come from three main sources:

University of Florida
Partha & Mukundan of India –
Sunshine Foliage World, Zolfo Springs, Florida

The University of Florida through its breeding program has introduced Aglaonema "Stripes" and ["Silver Bay"](#). Numerous "sports" have also been selected and are starting to come into production. Leading this research is **Jake Henny, Ph.D.** Professor of Environmental Horticulture. The objectives are very clear on these new varieties for indoor use. These new plants must:

- Have **colorful stems** and/or **leaves**
- **Sucker heavy**
- Be **resistant to chilling** (40 degrees)

Partha & Mukundan of India with their Stars of India collection has introduced 2 new hybrids which include ["Jewel of India"](#) and ["Emerald Star"](#).

By far the most aggressive in bringing new Aglaonemas to the market place has been Sunshine Foliage World. They have patented and introduced 10 or more new hybrids in the last few years, which include:

Black Lance PAT. #10,280
 Brilliant PAT. #11,030
 Deborah PAT. #9,775
 Green Lady PAT. #10,271
 Illumination PAT. #11,756
 Mary Ann PAT. #8,976
 Patricia PAT. #10,269
 Painted Princess PAT. #9,081

Peacock PAT. #11,305
 Rhapsody In Green PAT. #8,975
 Royal Ripple PAT. #9,070
 Silver Frost PAT. #9,082
 Stars PAT. #10,247
 White Lance PAT. #11,053
 White Rain PAT. #11,054

As with any new introduction the test of time and **the market will define which plants perform best inside**. For instance, as new plants are introduced it isn't uncommon to find plants that do well indoors but growers may have a difficult time producing them under nursery conditions of higher humidity and temperatures.

With many new varieties being introduced we are sure to have a much larger variety to choose from... and this will help provide many more "new looks" from this versatile group of plants.

Here is a list of the main varieties of plants available for sale today or in the near future.

Abidjan
 Amelia PAT. #8,977
 B.J. Freeman
 Black Lance PAT. #10,280
 Brilliant PAT. #11,030
 Cecelia
 Cory PAT. #11,458
 Deborah PAT. #9,775
 Emerald BayTM
 Emerald Star^{PPAF}
 Gabrielle
 Golden Bay PAT. #10,140
 Green Lady PAT. #10,271
 Illumination PAT. #11,756
 Jewel of India^{PPAF}
 Jubilee
 Lucia
 Margarita

Maria Christina
 Maria Emerald Beauty
 Mary Ann PAT. #8,976
 Painted Princess PAT. #9,081
 Peacock PAT. #11,305
 Queen of Siam PAT. #6,842
 Rachel
 Rhapsody In Green PAT. #8,975
 Romano
 Royal Ripple PAT. #9,070
 San Remo
 Silver BayTM
 Silver Frost PAT. #9,082
 Silver Queen
 Stars PAT. #10,247
 StripesTM
 White Lance PAT. #11,053
 White Rain PAT. #11,054

There are other varieties like costatum 'foxii', 'Fransher', nitidum 'Curtisii' and others that are pretty much found today in plant collections or for use by breeders.

As a group, Aglaonemas are cold sensitive and must be grown in protected areas if used in the outdoor landscape (which is very rarely). The primary production of Aglaonemas is for use indoors where they can enjoy the same temperatures you do.



Aglaonema Black Lance

Thousands of Aglaonemas are grown today **for indoor use**. They are available in most garden centers, grocery stores and nurseries that carry indoor plants. Although some varieties may only be found in some of the high-end garden centers and nurseries or by placing a special order with your favorite greenhouse. Some of the newer varieties are available in limited numbers and are generally purchased in smaller quantities by interior plantscapers.

The Chinese evergreen has become one of the **most versatile, recognizable and widely used** group of plants for indoor use. “Silver Queen” and “Emerald Beauty” have been one of the cornerstone plants for indoor use by the professional interior plantscaper for decades. With the many new varieties becoming available you can only expect the indoor gems to find more use in the indoor landscape.

I know you’re wondering... Is it possible that you can have the same plant, indoors, for years?

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One of the reasons for the Chinese Evergreen’s popularity and long life as an interior plant is their ability to cope with lower light levels. In their native surroundings they live on the dark tropical forest floor where they only occasionally receive a splash of bright sunlight.

Not only are Aglaonemas able to handle low light but... they can handle a wide range of soils and soil moisture. On top of that they have few pest problems. Combining these factors along with their easy care it’s very clear why Ag’s will remain one of the most popular indoor plants for years to come.

Tall, Medium and Short of Aglaonema

Before we check out the different varieties that Aglaonemas offer, let's first look at some of the different sizes available. When we're talking about sizes we're not referring to pot size but plant size. As with a lot of things... Ag's come in tall, medium and short.

The taller varieties of Aglaonema from a distance **can resemble one of their cousins the Dieffenbachia**. Varieties such as B.J. Freeman, Cecelia, 'Emerald Star' or 'Queen of Siam' ^{PAT #6842} can reach heights of 36-42 inches. These plants also display a wider leaf than we see on other Aglaonemas.

These plants make **outstanding stand-alone specimens** in areas that can give up the interior real estate, such as hotels, malls, convention centers, etc.

You'll normally find these plants in 10 and 14 inch containers. Plants grown in 10 inch pots will reach heights of 24-30 inches and can have a width of 24-36 inches.

The larger container size of 14 inch pots will allow these plants to **show their true beauty**, as they completely fill out the pots with plants standing 32-42 inches and having the same width.

The largest group of Aglaonemas would have to be the "medium" size plants. These varieties find their way into the **bulk of production and usage indoors**. Here you'll find common as well as the new varieties that are hitting the market.

Pot size ranges from 8-inch right on through to an occasional 14-inch pot. Most of the production is found in 8 and 10-inch pots. Height on these plants range from 18 inches in an 8-inch pot with 10-inch plants topping out at 24-28 inches over all.

Just as with the larger size Ag's you'll find most of the plants exceed their height with their width by a good 2 to 4 inches.

Here are just a few of the plant varieties we would consider in the "middle" category.

Abidjan
Amelia ^{PAT. #8,977}
Black Lance ^{PAT. #10,280}
Deborah ^{PAT. #9,775}
Emerald Bay TM
Golden Bay ^{PAT. #10,140}
Green Lady ^{PAT. #10,271}
Jewel of India ^{PPAF}
Jubilee

Lucia
Mary Ann ^{PAT. #8,976}
Painted Princess ^{PAT. #9,081}
Royal Ripple ^{PAT. #9,070}
San Remo
Silver Bay TM
Silver Queen
Stars ^{PAT. #10,247}
Stripes TM

Last but certainly not least are the smaller varieties. These Ag's spend most of their life in 6 and 8 inch pots and range in height from 12 – 20 inches overall.

The bulk of the production of these plants would have to be Emerald Beauty, Maria Christina and even the species commutatum.

One area in selecting an Aglaonema, which is very different from many of the foliage plants we see today, is that the pot size is not limited by the height of the plant.

What do I mean...?

Although we can sort of classify these **Ag's as small, medium and tall** as far as height is concerned, you can just throw that out the window. You'll find the small Emerald Beauty grown in a 6-inch and a 14-inch pot, even though it is a small plant height wise. Plants that are small in height just have a "look" about themselves in a large pot.

Here is a chart of currently available plants broken down by plant and the pot size it's grown in.

Variety	6"	8"	10"	14"	17"
Abidjan		X	X	X	
Amelia ^{PAT. #8,977}	X	X	X		
B.J. Freeman		X	X	X	
Black Lance ^{PAT. #10,280}		X	X	X	
Brilliant ^{PAT. #11,030}		X	X		
Cecilia		X	X	X	
Cory ^{PAT. #11,458}				X	
Deborah ^{PAT. #9,775}		X	X	X	
Emerald Bay TM		X	X		
Emerald Star ^{PPAF}		X	X	X	X
Gabrielle			X	X	
Golden Bay ^{PAT. #10,140}		X	X		
Green Lady ^{PAT. #10,271}		X	X	X	
Illumination ^{PAT. #11,756}				X	
Jewel of India ^{PPAF}	X	X	X	X	
Jubilee	X	X	X	X	
Lucia	X	X	X		
Margarita			X	X	
Maria Christina	X	X	X	X	
Maria / Emerald Beauty	X	X	X	X	
Mary Ann ^{PAT. #8,976}	X	X	X	X	
Patricia ^{PAT. #10,269}		X			
Painted Princess ^{PAT. #9,081}	X	X	X	X	
Peacock ^{PAT. #11,305}		X	X		
Queen of Siam ^{PAT. #6,842}		X	X	X	
Rachel			X	X	

Rhapsody In Green <small>PAT. #8,975</small>	X	X	X	X	
Romano			X		
Royal Ripple <small>PAT. #9,070</small>		X	X		
San Remo	X	X	X	X	
Silver Bay TM		X	X	X	
Silver Frost <small>PAT. #9,082</small>				X	
Silver Queen	X	X	X	X	
Stars <small>PAT. #10,247</small>		X	X	X	
Stripes TM		X	X		
White Lance <small>PAT. #11,053</small>		X	X		
White Rain <small>PAT. #11,054</small>			X		

So forget height of the plant when looking at Ag's. Seek the plant that gives you “**the look**” you want and **does the job**. Price wise you'll most likely pay about the same for the small/large plant as you will for the large/large plant. You just wouldn't receive as much height... But you'll get a **true proven indoor performer** with Aglaonema.

Today's new varieties of Aglaonemas have added a new palette in color designs, styles and color patterns for use indoors. You'll find a whole new suite of plants to use in a wide variety of settings and lighting.

Dark greens, blue gray, silver, yellow, pink, gray with patterns that look like they float on top of their green leaf base.



Current Commercially **Grown Aglaonema Varieties**

The next section covers **many of the commercial varieties** available today. Some of them are so new they are not available for sale because growers are working to build stock, and their indoor performance is not documented yet. We've included images for identification purposes.

Aglaonema “Abidjan”



14" Aglaonema "Abidjan"

Pot Size	Height
6 Inch	14-16"
8 Inch	22-24"
10 Inch	26-28"
14 Inch	36-40"

“Abidjan” was introduced by Jim Voster in 1974. He picked it up in Abidjan, Ivory Coast and began propagating it. It seemed to disappear for a while but because of its toughness it is being grown again.

It looks similar to “Jubilee” but not as compact. The leaves are also wider and longer than “Jubilee”.

The availability of “Abidjan” is variable with 8, 10 and 14-inch pot sizes being the most commonly grown. It isn’t one that you’ll find in your everyday nurseries or garden centers.

Aglaonema “Amelia” PAT. #8,977,,

Amelia is a new introduction to the - **Elite Aglaonema series** from Sunshine Foliage World.

This Ag has large dark green leaves with random patches of light green blotches all over the leaf. It produces stocky growth and suckers well. Pictures just don’t do it justice!!!

Amelia is grown in pot sizes from 6 to 14 inches and can reach a width of 36 inches and heights up to 28 inches. The plant displays superior color, and has an extremely dense growth habit.

Interior plantscapers consider “Amelia” a good indoor performer. “Amelia” is grown in 6, 8 and 10-inch pot sizes but the availability is still variable. Most nurseries or garden centers should be able to order this stocky Ag for you.

Pot Size	Height	Width
6 Inch	12-16"	14-18"
8 Inch	16-20"	18-24"
10 Inch	20-26"	24-30"
14 Inch	24-28"	30-36"



Aglaonema B.J. Freeman / Cecelia / Gabrielle

B.J. Freeman is probably the first of the large growing Aglaonemas to be introduced.

Although it is grown in an 8-inch pot, it really looks best in a 10 or 14-inch pot. B.J. Freeman should be used more as a stand-alone specimen. The leaves are large and have almost a gray-green look to them.

The leaves can very easily be damaged and the plant requires good light. B.J. Freeman can get rather tall and you may need to regularly remove the tips to stimulate new growth lower down the stem.

It may sound as if B.J. Freeman isn't the best Ag for indoor use... but under good lighting and protected from traffic that can damage the leaves it is a real winner. B.J. Freeman is grown in pot sizes from 8 to 14 inches and can reach a width of 36 inches and heights up to 48 inches or more.

It is somewhat of an "old-timer" in the world of large Ag's and has proven to be an outstanding performer. Make sure you have plenty of space; the plants can get very tall and wide. Most nurseries or garden centers should be able to order B.J. Freeman for you. This plant is also known or sold as "Cecelia" or "Gabrielle".

Pot Size	Height	Width
8 Inch	16-20"	18-24"
10 Inch	20-26"	24-30"
14 Inch	24-28"	30-36"

14" Aglaonema B.J. Freeman



Aglaonema “Black Lance” PAT #10,280



8" Aglaonema “Black Lance”

Pot Size	Height	Width
8 Inch	18-24"	18-22"
10 Inch	26-32"	24-30"
14 Inch	28-36"	30-36"

“Black Lance” PAT #10,280 is another of the new introductions from Sunshine Foliage World’s - **Elite Aglaonema series.**

It derives its name from its “lance” or “saber-like” narrow leaves. A long broad strip of light green to silver runs on top of the dark green leaf down the center of the narrow leaves.

“Black Lance” PAT #10,280 is also one of the taller more upright growing Ag’s, but produces a dense canopy of foliage. Under low light the tallest stems can get “floppy”. You may need to remove these taller stems before they flop.

Over all the plant is excellent in good light and suckers well. Plantscapers have reported “Black Lance” to be a good performer on indoor jobs.

“Black Lance” is readily available and most nurseries or garden centers should be able to order this great indoor performer for you. Have them contact their wholesale supplier or indoor plant broker.



Aglaonema “Brilliant” PAT #11,030

Pot Size	Height	Width
8 Inch	18-22”	22-26”
10 Inch	22-26”	26-28”
14 Inch	24-28”	

“Brilliant” PAT #11,030 is another new introduction in Sunshine Foliage World’s - **Elite Aglaonema series.**

One of the things you’ll notice right away is this plant’s white stems and bright colored foliage hence the name “Brilliant”.

Interior plantscapers have reported “Brilliant” to be very low on the maintenance side and when cared for properly a very long lasting plant indoors.

“Brilliant” does like to dry out between watering. You’ll find it grown in 8, 10 and 14-inch pot sizes but the availability is still variable. Contact you favorite local nurseries or garden center to have them special order this “Brilliant” Aglaonema for you.

10” Aglaonema “Brilliant” PAT #11,030



Aglaonema “Cory” PAT #11,458



Pot Size	Height	Width
8 Inch	16-18”	18-20”
10 Inch	18-22”	20-24”
14 Inch	34-36”	28-32”

Aglaonema “Cory” traces its origins back to the research and breeding program at the University of Florida.

“Cory” distinguishes itself with white or cream stems, a nice feathery silver/green striping on a medium green leaf. It also suckers very heavy.

It is primarily grown in 8, 10 and 14-inch pots. Early testing has shown “Cory” to handle temperatures below 50 degrees with no damage and does well in most indoor light levels.

Most nurseries or garden centers can order “Cory” from an indoor plant broker or wholesaler. It may also be sold under the name of “Margarita”

Aglaonema “Deborah” PAT #9,775

Pot Size	Height	Width
8 Inch	18-24”	18-22”
10 Inch	26-32”	22-28”
14 Inch	28-32”	30-36”

“Deborah” PAT #9,775 is another introduction to Sunshine Foliage World’s - **Elite Aglaonema series.**

The plant is actually a sport of another one in the Elite series – “Queen of Siam”. The leaves of “Deborah” have somewhat of a gray-green center with dark green at the edge and veins, which are gold in appearance. The stem and petioles are white or cream colored and has a “bright” appearance.

Size wise it is very comparable to B.J. Freeman and being a sport of “Queen of Siam” it follows its general growth pattern. It grows a little more dense as far as one of the upright Aglaonemas goes.

If you are a fan of the white or cream colored look in Aglaonemas “Deborah” is considered to be a good performer.

10” Aglaonema “Deborah”



Aglaonema “Emerald Bay”™

Aglaonema “Emerald Bay”



Pot Size	Height
6 Inch	14-16”
8 Inch	16-18”
10 Inch	18-22”
14 Inch	24-28”

“Emerald Bay” is another new introduction that can trace its roots back to the University of Florida breeding and research program. It is currently being produced in tissue culture by Agri-Starts, Inc. in Apopka, Florida.

If it is anything like it’s cousin “Silver Bay” this is going to be a winner!!!

Early testing show the plant is able to handle temperatures in the mid 40’s with little or no damage.

Aglaonema “Emerald Star”^{PPAF}”

17” Aglaonema “Emerald Star”



Pot Size	Height	Width
8 Inch	16-18”	
10 Inch	18-22”	
14 Inch	24-28”	
17 Inch	40-44”	40-44”

“Emerald Star” is from Partha & Mukundan of India. It has dark, wide, glossy leaves with a very prominent mid-vein. It’s an upright variety, which suckers heavily.

The “3 shades” of green make this a striking new look to an interior. “Emerald Star” gets its name from the deep emerald green leaves accented with “lemon-lime” stars throughout the leaf.

The size of “Emerald Star” will give the look of a Dieffenbachia but without the headaches.

Emerald Star is one of the new varieties that can handle lower temperatures without damage. It also gets very large with 40-inch heights as well as widths. It has been put through quite a bit of abuse in the testing phase and has performed very well. It’s now in regular production but you’ll only find it at more of the high-end nurseries that handle tropicals.

Most nurseries or garden centers can order “Emerald Star” from an indoor plant broker or wholesaler.

Aglaonema “Golden Bay” PAT #10,140



Pot Size	Height
6 Inch	14-16”
8 Inch	16-18”
10 Inch	22-26”
14 Inch	24-30”

“Golden Bay” is another new introduction that can trace its roots back to the University of Florida breeding and research program. It is currently being produced in tissue culture by Agri-Starts, Inc. in Apopka, Florida.

“Golden Bay” suckers heavy and makes a full plant with few cuttings. Many of the varieties that are coming out of this breeding program sucker heavy and have good coloration.

Early testing show the plant is able to handle temperatures in the mid 40’s with little or no damage. The plant suckers well making for a full plant and longer lasting on the job.

Aglaonema “Green Lady” PAT #10,271

14” Aglaonema “Green Lady”



Pot Size	Height	Width
6 Inch	14-18”	14”-18”
8 Inch	20-22”	18-24”
10 Inch	20-26”	24-30”
14 Inch	24-30”	30-36”

“Green Lady” is another from Sunshine Foliage World’s – “Elite” series. It is a stocky plant with leaves of dark green with light green blotches coming from the center vein.

The plant is very similar to Emerald Beauty / “Maria” but is much larger. It suckers well and plantscapers report that the plant holds up well and performance is excellent. “Green Lady” is very symmetrical in that you’ll find it is only slightly taller than it is wide.

Having a plant that produces suckers will allow you to keep a plant full and stay away from any “leggy” look. You’ll find “Green Lady” available in 6, 8,10 and 14 inch pot sizes.

Aglaonema “Illumination” PAT #11,756

Pot Size	Height
6 Inch	14-16”
8 Inch	16-22”
10 Inch	22-28”
14 Inch	28-32”

“Illumination” appears to be a strong grower and is a new introduction to the “Elite” Aglaonema series. This is another of the Ag’s that has white or cream colored stems.

On top of these white stems sits leaves that are silvery green and have dark green blotches down the center vein. The center vein or midrib and the other major veins are highlighted with gold variegation and gold speckles.

“Illumination” is shorter in height, and vigorous. It makes an attractive substitute for “Deborah” or “Queen of Siam”.



Most of the white or cream-colored Aglaonemas should be dried out a little more between waterings indoors. Since “Illumination” is fairly new in the industry and there are not a lot of growers yet, you’ll need to have your local nursery or garden center contact their “favorite” indoor plant broker or wholesaler to find “Illumination”.

Aglaonema “Jewel of India”^{PPAF},”

Pot Size	Height
6 Inch	14-16”
8 Inch	16-22”
10 Inch	22-30”
14 Inch	30-40”

“**Jewel of India**” is from Partha & Mukundan of India “Stars of India” collection. This “jewel” has a lot of silver in the leaf. The developers of this hybrid have taken quite a bit of time to “get it right”.

Here’s what they’ve created:

- A beautiful plant
- The plant suckers well so growers don’t need to stuff a lot of cuttings in a pot
- It’s symmetrical and full
- Takes much lower temperatures (down into the 40’s)



There are currently only 2 licensed growers of this plant in the United States, but their production commitment is substantial. Most nurseries or garden centers can order “Jewel of India” by contacting their indoor plant broker or wholesaler.

One note on plants that sucker heavy... This allows growers to use fewer cuttings per pot, which keeps cost down, but... may take longer to grow the plant. This will usually produce a very strong root system, which is one of the keys to having long-term plants.

Aglaonema “Jubilee”



Pot Size	Height	Width
8 Inch	16-20"	16-20"
10 Inch	20-26"	20-26"
14 Inch	24-30"	24-30"

“Jubilee” is one of the medium height Aglaonemas from the Sunshine “Elite” series. The leaves are dark green with a silver streak running down the center.

This variety has already been replaced with a “new” upgraded version called “Jubilee Petite”. It has the same look as “Jubilee” but is more compact, bushier, suckers well and can handle cooler temperatures.

I’m sure it won’t be long before the “petite” is dropped in the trade and this plant just goes by the name “Jubilee”

Since the plant has lots of leaves in a small pot the soil dries generally quickly... this is a bonus for plants in lower light levels to help avoid overwatering which causes so many problems indoors.

Interiorscapers are starting to use “Jubilee” as a replacement for some of the more “leggy” varieties such as “Silver Queen” and “Maria Christina”.

One interiorscaper summed up “Jubilee” this way... A Great Plant!!!

You’ll most likely find “Jubilee” grown in 8 and 10-inch pots with a few 14 inch for special uses.

Most nurseries or garden centers can order “Jubilee” from an indoor plant broker or wholesaler.



8" Aglaonema “Jubilee”

Aglaonema “Lucia”



Pot Size	Height	Width
6 Inch	16-20"	14"
8 Inch	20-24"	18"
10 Inch	30-36"	24"

“Lucia” is a selected sport of the species *pseudobracteatum*. “Lucia” does appear to have more green than the regular “pseudo”. It is an upright grower with long somewhat narrow leaves of cream and green along with some “gold” mottling.

The stems are strong with leaves that have almost a weeping habit. Interior plantscapers report “Lucia” as being a plant that doesn’t seem to mind wet or dry ... or dark or light. It’s a great addition to brighten up a room.

“Lucia” can be used as a stand-alone specimen or clustered together as accent plants. It grows much too tall to be used in beds as a ground cover. It can also get a little “floppy” as it grows out.

“Lucia” is available from only a few growers in 6, 8 and 10-inch pot sizes. Most nurseries or garden centers can order “Lucia” from an indoor plant broker or wholesaler.

Aglaonema “Maria Christina”



14” Aglaonema “Maria Christina”

Pot Size	Height
6 Inch	14-16"
8 Inch	16-18"
10 Inch	18-26"
14 Inch	24-30"

“Maria Christina” traces it’s lineage back to the stock beds of Aglaonema “Silver Queen”. It was selected out and grown on because it does provide a different look than “Silver Queen”

First, it is more compact in growing. The leaves are not as long as “Silver Queen” and it will handle slightly cooler temperatures. The coloration is very similar to “Silver Queen” and looks very good when the plant is in smaller pot sizes.

As the plant grows taller it can also get a little floppy as it grows out. “Maria Christina” can be used as a stand-alone specimen or as ground cover. Availability can be somewhat erratic since the quantity of stock is not as great as “Silver Queen”.

This Ag has been out for quite a while but it doesn’t hold up as well as the newer varieties.

Aglaonema “Emerald Beauty/Maria”



Aglaonema “Emerald Beauty/Maria”

Pot Size	Height
6 Inch	14-16”
8 Inch	16-20”
10 Inch	20-26”
14 Inch	26-30”

“Emerald Beauty” also known as “Maria”, has been around since the 1970’s. The plant was collected in the Philippines and introduced to the trade by Tropical Ornamentals of Delray Beach, Florida.

The plant is much more compact with dark green foliage followed by bands of silver-gray lying on top. It is not as sensitive to cold as “Silver Queen” so it can be used in many other interior settings.

It is a slower grower and because of its compact habit is better suited for “squat pots” or azalea pots. The introduction of “Emerald Beauty” has been a great addition to the interior market because it provided a durable, low light, short plant for use as a ground cover indoors.

You’ll find it grown primarily in 6 and 8-inch pots with some 10-inch available. Interiorscapers use it as a stand-alone plant but is used quite often as a ground cover and in low planters/dividers.

Aglaonema “Mary Ann” PAT #8,976



Pot Size	Height	Width
6 Inch	12-16”	14-18”
8 Inch	16-20”	20-24”
10 Inch	20-26”	24-30”
14 Inch	24-28”	30-36”

“Mary Ann” is another from Sunshine Foliage World’s – “Elite” series. It is a stocky plant with leaves of dark green and silver blotches coming from the center vein.

It has a very similar look to “Emerald Beauty” but it is sturdier and stockier.

“Mary Ann” also suckers very heavily and can produce a very full 10-inch plant from a single cutting.

The suckering along with its compact habit combine for a great combination that allows the plant to look good under interior conditions for extended periods of time.

Aglaonema “Painted Princess” PAT #9,081

08” Aglaonema “Painted Princess”



Pot Size	Height	Width
6 Inch	12-16”	14-18”
8 Inch	16-20”	20-24”
10 Inch	20-26”	24-30”
14 Inch	24-28”	30-36”

“Painted Princess” is one of the more popular Aglaonemas from Sunshine Foliage World’s – “Elite” series.

Like many of these new varieties “Painted Princess” also possesses a heavy suckering habit. This allows the plant to remain compact looking and full.

The coloration is different than many other Ag’s. The leaves are dark green and have striping which feathers out from the center to almost the edge. Laid on top of that is a semi transparent striping of gray green.

The availability of “Painted Princess” is pretty good in 8 and 10-inch pot sizes. You should be able to find “Painted Princess” at the more upscale nurseries or garden centers.

Aglaonema “Peacock” PAT #11,305



10” Aglaonema “Peacock”

Pot Size	Height	Width
8 Inch	18-24”	18-22”
10 Inch	26-30”	22-28”
14 Inch	28-32”	30-36”

“Peacock” is a new introduction, which at this time is still being tested. This plant also finds its origin in the Sunshine Foliage World – Elite Aglaonema Series.

It is one of the most striking of all the new Aglaonemas that have been introduced. Its name is derived from the coloration of peacock’s feathers.

Early testing indicates, “Peacock” to be a good performer under interior conditions.

Aglaonema “Queen of Siam” Pat #6,842



14" Aglaonema "Queen of Siam"



Pot Size	Height	Width
10 Inch	26-32"	22-28"
14 Inch	28-40"	30-36"

Aglaonema “Queen of Siam” is another from Sunshine Foliage World’s – “Elite” series. It falls into the category of the large size Aglaonemas.

“Queen of Siam” looks very similar to Aglaonema “Deborah” but appears to become a little more floppy. When cut back to the soil it suckers very well.

Its upright growth “shows off” the creamy white stems, which is accented with medium to dark green leaves with the center of gray-green.

“Queen of Siam” looks best in 10 - 14 inch pots and can be used as a stand-alone specimen because of its upright growth and large size.

Aglaonema “Rachel”



14" Aglaonema "Rachel"

Pot Size	Height
8 Inch	16-18"
10 Inch	30-34"
14 Inch	36-42"

“Rachel” is a sport from Aglaonema Maria. It carries the same leaf pattern with blotches of silver on a dark green background.

What makes “Rachel” different is the size. The leaves are about 3 times as wide and also 3 times as long as its “parent” Maria. It suckers heavy and grows much taller. In size it is comparable to a B.J Freeman.

Rachel is grown by only a few growers but generally is available on a consistent basis.

Aglaonema “Rhapsody in Green” PAT. #8,975

Pot Size	Height	Width
6 Inch	16-20”	14-18”
8 Inch	20-28”	18-20”
10 Inch	26-32”	26-30”
14 Inch	28-40”	30-36”

“Rhapsody in Green” is another selection from the Sunshine Foliage World’s **“Elite” series**. It is similar in appearance to “Black Lance” but the leaves are not quite as long.

The leaves are long and narrow with a blotch of silver down the center. It distinguishes itself as one of the most requested of the “new” Aglaonema introductions.

“Rhapsody in Green” is known for its massive size, extreme disease resistance and ability to withstand over-watering or drought conditions. It is reported to handle temperatures in the lower to mid 30's provided it is protected from frost.

In a well-lit area “Rhapsody” can get quite tall (over 48 inches). Under lower light levels it can get a little floppy.

The availability of “Rhapsody in Green” is usually pretty good in 6, 8,10 and 14 inch pot sizes. Most nurseries or garden centers can order “Rhapsody in Green” by contacting their indoor plant broker or wholesaler.



Aglaonema "Romano"

Pot Size	Height
8 Inch	16-18"
10 Inch	18-22"



Aglaonema "Romano"

"Romano" has been around for quite a while; at one time I believe it was sold as "Manila".

This plant is a slow grower. It first develops a root system and then will sucker very heavily. I have seen and grown very full 10" pots of "Romano" from 1 single cutting.

From the grower side "Romano" can be difficult to grow during the summer months... it's not fond of the high humidity. When the plant moves inside it performs very well.

This is one variety that would best be cared for on the dryer side.

Aglaonema "Royal Ripple" PAT #9,070

Pot Size	Height	Width
6 Inch	14-18"	14-18"
8 Inch	16-22"	20-24"
10 Inch	20-26"	22-28"
14 Inch	24-30"	26-32"



10" Aglaonema "Royal Ripple"

"Royal Ripple" is another selection from the Sunshine Foliage World's **"Elite" series**. It has somewhat of the look of a "Silver Queen" but the silver is much darker.

It's one of the medium sized Ag's. The word on the street is that it handles low light very well and maintains its coloration.

8" Aglaonema "Royal Ripple"



Aglaonema “San Remo”



10" Aglaonema "San Remo"

Pot Size	Height
6 Inch	14-16"
8 Inch	16-18"
10 Inch	18-28"
14 Inch	24-30"

“San Remo” has been in production off and on for almost 20 years. When inside the leaves are probably the darkest green of all the Aglaonemas grown commercially.

It does have a tendency to thin out and become “leggy” after a while inside, but displays remarkable endurance... it’s just plain old “tough”.

This toughness and ability to hold up well under low light is one reason “San Remo” Keeps making a come back every few years. Keep “San Remo” in mind... it’s a great plant for difficult areas.

Aglaonema “Silver Bay”™



10" Aglaonema "Silver Bay"

Pot Size	Height
6 Inch	14-16"
8 Inch	16-18"
10 Inch	24-26"
14 Inch	30-32"

“Silver Bay” came on to the Ag scene in 1998-1999 and more growers have begun to add it to their production. Its origins are from the University of Florida breeding program.

Silver Bay has a broad leaf that can be 4-5 inches in width. The leaves have a medium green edge around the outside overlaid with a gray-green center. The leaves of Silver Bay are a little more oval in shape than that of the “standard” Aglaonema. It suckers heavily, grows upright and usually is as wide as it is tall.

Ten-inch pots run 26-28 inches and 30 inches wide. Really a “wow” plant. With more growers beginning to produce this plant it gives some indication of how good it looks to be.

Aglaonema “Silver Frost” PAT #9,082



14" Aglaonema "Silver Frost"

Pot Size	Height
6 Inch	14-16"
8 Inch	16-18"
10 Inch	18-22"
14 Inch	24-28"

“Silver Frost” is another from the “Elite Aglaonema” line by Sunshine Foliage World. It’s a very attractive plant with broad leaves and a bold silvery patch down the center. Height wise it would be considered in the medium range has a stocky growth habit and has been reported as performing excellent indoors.

Interiorscapers have raved at how well “Silver Frost” maintains its size and shape indoors over a long period of time.

When this plant first came out it excited quite a few people. Since it got into larger production, growers experienced some difficulties in producing it consistently. Even though it is a “new introduction” there seems to be little in production.

Aglaonema “Silver Queen”



10" Aglaonema "Silver Queen"

Pot Size	Height
6 Inch	14-16"
8 Inch	16-18"
10 Inch	20-26"
14 Inch	26-34"

“Silver Queen” has been the most widely grown and used Aglaonema over the past 30 years. The origin of this hybrid dates back almost 40 years ago.

“Silver Queen” can be used as a stand-alone specimen or as ground cover. Its biggest draw back is that during the winter months it can get some cold damage fairly easy and can also get a little “floppy” as it grows out.

The availability of “Silver Queen” is usually pretty good in 6, 8 and 10-inch pot sizes. You should be able to find “Silver Queen” in most nurseries or garden centers that carry indoor foliage.

This Ag will still be used for quite a while indoors. As new varieties become more available interior plantscapers are moving to other varieties to provide different looks.

Aglaonema “Stars” PAT #10,247



Pot Size	Height	Width
6 Inch	14-16”	
8 Inch	16-18”	
10 Inch	22-28”	24-30”
14 Inch	24-30”	28-34”

This hybrid causes some confusion in the plant industry, because of another variety in name it closely relates too... [“Emerald Star”](#). “Stars” has large mottled light and dark green leaves with creamy spots randomly distributed over the leaf.

The plant suckers well but generally doesn’t appear as “robust” as Emerald Star. “Stars” suckers not just from below

the soil level but also above on the canes. This can cause the plant to become a little top heavy and “floppy” as it gets taller.

The leaf is a little thinner and can damage easier. A real plus is that “Stars” appears to be fairly disease resistant and holds up well indoors.

Aglaonema “Stripes” TM



Pot Size	Height	Width
6 Inch	14-16”	
8 Inch	16-18”	
10 Inch	18-24”	
14 Inch	28-34”	

Aglaonema “Stripes” is the first Aglaonema to come out of the University of Florida breeding program

The leaves have narrow bands of silvery white along the veins that overlay a fainter and more diffuse pattern in the same area. Leaves average approximately 2 1/2 times as long as wide and may reach 35 cm in length.

Interior plantscapers have reported “Stripes” to be a very durable plant indoors and use the plant whenever they can specify it.

The current availability seems to be inconsistent since there are not many growers producing it.

Aglaonema “White Lance” PAT #11,053



Pot Size	Height	Width
8 Inch	16-24”	20-24”
10 Inch	24-26”	22-24”
14 Inch	24-28”	

“White Lance” is one of the newest introductions to the “Elite Aglaonema” line by Sunshine Foliage World. Overall it appears to be a good grower as far as the production side goes.

It features white or cream colored stems and suckers well which makes for a very dense growth habit. The leaf blades are narrow and have a general light color to them.

As with most new introductions the market place will decide if this plant will become used indoors on a regular basis or not.

Currently the stock is being increased for future production.

Aglaonema “White Rain” PAT #11,504



Pot Size	Height	Width
8 Inch	16- 24”	20-24”
10 Inch	20-26”	24-26”
14 Inch	24-32”	26-32”

“White Rain” is part of the “Elite Aglaonema” line by Sunshine Foliage World. Overall it appears to be a good grower in the nursery.

Like many of the new Aglaonema introductions it suckers freely and makes a very dense plant, which can add to a plants longevity inside, as it will not thin out. The leaves are much wider than “White Lance” and it also features a white or cream stem.

The plant is medium sized and has coloration that is similar to Deborah. This introduction is too new to really be able to say how it will be received and used indoors.

Production information

Just a few short years ago most Aglaonemas were grown in shadehouses and directly on the ground. Today many of the large sizes are still grown in shadehouses but few are grown on the ground.

When you visit a “finished” Aglaonema grower (not a cutting producer) today you’ll find plants elevated off the ground in a variety of ways. Everything from benches, concrete blocks, and upside down pots.

The primary reasons to get the plants off the ground is for **better soil drainage** and **helping prevent or reduce root diseases**. Quite frankly I think you just produce a better healthier plant.

One of the major downsides to growing Aglaonemas on a large scale is growing and/or maintaining them over the winter. Short and sweet... **Aglaonemas do not like cold!!!** One criteria in the selection of many of the **newer varieties** being introduced today is that they must be **able to handle cooler temperatures**... and that being into the mid 40 degree range.

Each year in South Florida, Aglaonema growers wrap their shadehouses in plastic, hook up heaters and prepare to brave the cold. The process of “wrapping” a shadehouse takes a lot of time, money and labor. Acres and acres of temperature sensitive plants are covered this way. This all starts around October and the plastic may not come off until mid to late March. A good solid 5 months.

Many growers are beginning to reevaluate their growing structures and are beginning to build **more permanent greenhouse structures** and move some of their more sensitive crops to these greenhouses. This allows them to better **control the conditions or light, water, temperature and fertilizer** as well as concentrate on growing and maintaining the plants year round rather than dealing with the winter hassles as well as the ever-changing greenhouse structure.

There has been a move of many smaller pot growers with greenhouse structures already in place farther north to grow larger pot sizes of new crops, which includes the many varieties of Aglaonemas.

The grower side is one part of the Aglaonema equation... the other side is the shipping and receiving of these great indoor plants especially during the winter months. As you know by now Aglaonemas do not like cold... in fact they generally like the same temperature you have in your home... about 72 degrees. When plants are shipped during the spring and summer months they’ll normally be placed in a paper sleeve, with the top open. During the winter months things change. The plants are shipped with two paper sleeves that provides some additional insulation but the top is usually stapled to reduce the exposure to the elements.

Remember when you're receiving, delivering or transporting Aglaonemas during the winter, cover them up, keep them warm and reduce exposure to the elements. It can take only a few moments for an Aglaonema to get damaged from cold in the winter.

Building (growing) from the Ground Up...Cuttings

The production of Aglaonema comes in basically two methods. The choice of which method to use is based upon the variety grown.

What are the two methods?

- **Tip Cuttings**
- **Tissue Culture (cloning)**

Prior to 1990, cuttings were and still are today the primary method of Aglaonema propagation. Tissue culture has only recently come onto the scene as a method of propagation with the introduction of new varieties. Some varieties come true from seed, such as *commutatum* but most seed production is left to breeders developing new varieties.

Almost all of the "finished" plants grown today are started from cuttings.

Cuttings come in three forms:

- Unrooted
- Callused
- Rooted cuttings

Overseas Cutting Production

Overseas Aglaonema production is pretty much limited to the varieties of:

- Silver Queen
- Maria/Emerald Beauty
- Maria Christina

Much of the overseas Aglaonema production is centered in Puerto Rico, and Central America. The real advantage to overseas production is the climate. Temperatures stay at 70 degrees and above which allow the plants to grow all year long providing a constant supply.

Countries throughout the world have different restrictions on importing plant material. One of the restrictions imposed by the United States is that plant material cannot be

imported with “soil” on the roots. A “cutting” **cannot be branched over a specific length**, that being 18 inches and individual cuttings cannot be over 72 inches.

Cuttings of Aglaonemas generally come in 2 sizes:

- 10-12 inches
- 12-15 inches

Stock plants of Aglaonema are planted with tip cuttings in beds. The plants are grown and tip cuttings are taken. Here is the process...

- Tip cutting is taken from stock bed
- Each cutting is graded for size
- Bottom leaves are removed if needed
- Bottom of cutting is dipped in a fungicide to help protect from disease
- Unrooted cuttings are wrapped in newspaper with 3-5 cuttings per bundle OR
- Cuttings that are sold as calloused or rooted tips are “stuck” into beds of sawdust for rooting or hardening off. The rooting process takes anywhere from 2 to 6 weeks depending on the plant and weather conditions.
- Bundles of wrapped cuttings are boxed up into various counts of 60-150 cuttings per box.
- Boxes are shipped to the United States or Europe by air.
- Plants arrive usually over the weekend. Once they arrive in the U.S. the plants are inspected by the Department of Agriculture and if everything is OK they clear customs (just like people).
- Boxed cuttings are then picked up by the buyer, who is usually a cutting broker, and may be delivered directly to nurseries or may be placed in coolers for delivery later in the week.
- Nurseries receive the cuttings and begin the planting and growing process

How much time passes between the cutting and shipping process?

Anywhere from 3 days to 4 weeks.

Cuttings that have been “stuck” in sawdust slowly begin to callous and sprout roots. These sprouts look like small “bumps” where the new growing roots will emerge.

This process of producing tip cuttings, receiving and planting of Aglaonema cuttings is a **year round process**. It may slow down during the winter season since greenhouses are full waiting for the spring selling season.



Domestic Aglaonema Production

The domestic production of Aglaonemas comes in two different forms.

- **Cuttings**
- **Tissue culture**

Domestic Cutting Production

Producing Aglaonema cuttings domestically is not much different than producing them overseas. The biggest difference is probably that the cuttings can arrive fresher and there is no custom clearance on the plants. Also cuttings could be rooted in soil and shipped directly to the grower.

Cuttings could also be “customized” for different growers, if they were looking for cuttings of different sizes or even limited production of new varieties.

Tissue Culture Production

The production of tissue cultured Aglaonemas is a relatively new method. The real plus of tissue culture is the ability to take a new plant with only a few cuttings... and produce a large quantity of plants, which are all the same. This method works great on Spathiphyllum and Anthurium.

The downside on Aglaonemas is the amount of time it takes for these plants to go from tiny plants to finished marketable products... sometimes as long as 18-24 months. What the future holds for tissue cultured Aglaonema product will most likely be the production backbone in supplying new plants for stock field farms.

Many of the new-patented varieties are produced in the United States and shipped directly to growers. Either way foreign or domestic... the cuttings arrive at the nurseries as unrooted, callused or rooted cuttings.

Once the cuttings hit the nurseries they begin their journey into becoming an indoor plantscape workhorse.

Each and every grower handles cuttings differently but here is the typical route that a grower would take.

Cuttings generally arrive with about five or six leaves. As the cuttings arrive they are unboxed and unwrapped. Even though the cuttings may be all the “same size” they will vary in thickness of the cane, quantity of leaves on the cutting and stem length. As the cuttings are unwrapped they are graded so that cuttings of similar “likeness” are planted together. Damaged leaves or lower leaves are removed.

Cuttings that are too small may have no stem which makes the rooting process much more difficult. These small cuttings have more of a tendency with disease problems and can rot easily. If a cutting is too big, it may flop around in the pot and even root slower.

During the shipping process a few cuttings usually turn to mush and must be thrown away. The labor to try and “save” a cutting is far too costly in time and energy as well as the possibility of disease.

Depending on the variety and pot size the plants will be finished in, the cuttings are then planted into containers.

Aglaonemas do sucker ... sending up new shoots from the bottom. To help improve the suckering, cuttings are normally spaced in the pot. It is not uncommon for a rooted cutting once established to produce 2 or 3 new suckers, making a very full plant. In fact some varieties sucker so heavy that only one cutting is needed to produce a finished plant.

Once cuttings have been planted, the rooting process takes about four weeks in warm weather. **One of the keys in the rooting process of most tropicals is not the air temperature but the soil temperature.** Soil that remains in the 80-90 degree range will develop roots much faster than cooler soil.

Many avid homeowners/gardeners believe in always sticking their cuttings in a rooting hormone when they plant up cuttings. Aglaonemas are one group of plants that have shown **very inconsistent results with rooting hormones**, and growers seldom use them. They also stay away from misting of the cuttings because of the disease problems that seem to pop up. Grower’s cutting demands are fairly simple... they want a **good steady supply of healthy cuttings that are free of disease.** From there, they will handle the rest.

Once cuttings have been planted, growers generally drench with a fungicide or fungicide combination to push the plant off to a good start. After the plants have put down some roots, growers may follow up with a liquid “starter” fertilizer that is high in phosphate. This helps develop more and stronger roots.

As I said, each grower handles cuttings and plant variety differently. Some may decide to plant cuttings into smaller containers such as a 6 or 8-inch pot to establish the plants, conserve the growing area and later on grade the plants and plant them in larger containers, such as a 10 inch or 14 inch pot.

Other growers may plant directly into the size pot the plants would be sold in.

Handling cuttings can be very difficult for growers. When a nursery does not control their own stock they cannot control their flow of cuttings. It isn’t uncommon for a grower

to have a standing order for 2000 cuttings a week and not receive the full amount they need.

This affects the production numbers, which in turn hurt the sales numbers and limit the quantities available in the market place.

It is **very difficult for growers today to maintain their own Aglaonema stock domestically**. The land and production cost is too high. So growers are at the mercy of cutting suppliers and Mother Nature to have adequate cuttings to supply their needs.

Smaller pots are grown on benches and large pots are grown on the ground, although many nurseries are beginning to raise their LARGER plants off the ground by using concrete bricks or benches for these sizes AS WELL. Raising the pots helps with draining the excess water in the soil and cutting down on root diseases that can sometimes be easier to get on the ground and helps maintain even spacing to produce symmetrical plants.

When growers pot up cuttings how many do they put per pot?

First they almost always plant odd numbers...

Pot size	Cuttings/Pots per Pot
6 inch	1-5
8 inch	3-5
10 inch	5-9
14 inch	9-13
14 inch	1 – 10 inch
14 inch	3 – 6 inch or 2- 8 inch pots
17 inch	3 – 8 inch pots
17 inch	1 – 10 inch

The grow times on these plants again vary depending on the variety but a good general time frame is 6-9 months on the small 6 inch pots to 9-18 months on the larger sizes.

Some growers (not many) actually cut the tops off their plants before stepping them up into a larger container. This may sound a little strange but what develops is a very strong plant, with a well-developed root system.

When to find a “sleeping jewel”

Every plant has their season. For the Spathiphyllum it’s the springtime when they begin to push up their white sails, and many other plants both indoor and out it’s when they make that nice push to robe themselves with new foliage.

For the Aglaonema (this is my opinion) it's the fall. Specifically during the September and October months. The Ag's have just come through the growing season of summer. **The plants have active root systems and the foliage is full.** You almost cannot go wrong with an Aglaonema during this time... simply beautiful plants. But if you play your cards right and do a little exploring you'll find some true "sleeping jewels".

Where do these "sleeping jewels" come from?

The grower.... You see what happens is that Aglaonemas are all grown from cuttings... generally. After the spring selling season there is always some "left over" plants. These plants may have some leaf damage that was removed, or the leaves could even have been nipped with a cool spell or the plants may just not have been full enough. Notice that the reference was made to the leaves... not the root system. Growers many times will cut the tops right off of these plants and step them up to a larger pot.

Already possessing a strong root system these plants explode with new shoots that grow up from the base and develop into sturdy full plants of exceptional quality. And they generally are ready for sale in the fall. Take a few extra moments and look at the base of the plant you're picking out. Does it have a lot of plants coming from the base rather than the 3 – 7 cuttings?

That's the way you'll find the "sleeping jewel".

PATENTED PLANTS

Plants can be **patented** just like other commodities. Plants can also be **trademarked**.

What makes a Plant patentable?

The plant must have a trait that distinguishes it from other **cultivars**.

***Cultivar** - A race or variety of a plant that has been created or selected intentionally and maintained through cultivation. (Dictionary.com)*

Patents are allowed only for plants that are asexually propagated. Patented plants are produced by division, cuttings or tissue culture. Plants that must be propagated by seeds or spores cannot be patented.

To receive a patent, the history of the new plant such as where, when and by whom the new plant was found (address, date and discoverer) must be provided. If the plant originated from seed, the parents must be listed or if it was a sport, the parent plant must be stated.

Finally, you need a Patent Attorney and money to handle everything. The process can take anywhere from 12-24 months to receive a Patent number.

And most importantly the **plant has rights... Yes rights of ownership.**

The holder of a patent has the exclusive right to propagate that plant for seventeen years. No one else can legally propagate it, which means that **ONLY** licensed growers can propagate it or grow it.

There are some specific breeders who do nothing but produce new varieties and patent them. In turn they license growers to propagate them and receive a royalty. Other breeders develop new varieties and also patent them but keep complete control of the distribution of that plant.

For instance they may keep complete control of all distribution in the United States but may allow another company (who pays a royalty) to control and distribute the patented plants in Europe.

DO NOT assume that just because you purchased a plant at the local nursery or garden center you are free to try and propagate the plant. Most patented plants come with tags that clearly state that **plant propagation is prohibited**.

SOIL

Aglaonemas not only do well under lower light levels but generally are not very picky about their soil mix. Growers use many different combinations of peat moss, bark, wood chips, sawdust, sand, and arolite (Styrofoam) to grow plants for long-term indoor use.

Aglaonemas do have some soil requirements though... a soil mix must:

- Hold moisture
- Drain well

You can grow a pretty good Chinese evergreen providing just these two basic requirements.

Ag's like soil that is moist, not wet. They like the soil to be watered thoroughly and allowed to let the excess water drain off. Even though Aglaonemas are not considered fast growers, when growing **in the nursery they can be heavy feeders.**

In South Florida you'll find a large amount of Aglaonema production. Plants are grown under 80% shade and some growers use 2 layers of 73% shade that bring the shade level down to about 90%. If plants are grown in too bright of lighting you'll notice foliage that is more upright and pale looking. When the light levels are reduced the plants look much better but grow much slower.

Aglaonemas are usually grown with slow release fertilizers that are top dressed or incorporated into the soil. Other growers use a constant liquid feed program or a combination of the both.

INTERIOR CARE

Aglaonemas to say the least are excellent and attractive plants for indoor use.

They prefer the same temperatures indoors that most people are comfortable in ... 70 to 75 degrees. Many of the new Aglaonema varieties will tolerate lower temperatures but to keep the plants looking good try to keep them away from the winter cold blast of opening doors and keep the temperature at 60 degrees or above (especially with "Silver Queen")

Even when placed in low light the plant can still maintain attractive foliage. When an Ag is placed in higher light levels (such as 100-300 foot-candles or even bright morning sun) and proper watering is done it is possible to have a beautiful specimen for years.

You'll notice that **proper watering** is the key.

It can be **very easy** for plants maintained in **lower light levels to be over watered**. Ag's can get several different root or stem rots and under low light levels correct watering is key to long-term plant health. This holds true not just for Aglaonemas but indoor tropicals in general.

When you lower the following:

- **Light intensity**
- **Light duration**
- **Temperature**

As a rule you should **allow the soil to dry out more between watering**.

Under low light levels allow the soil to dry to about one half the depth of the container. Down at the local garden center or nursery you may get a recommendation of "let the top of the soil dry". **Under low light levels this just isn't dry enough for Ag's.**

As plants are maintained in higher light levels allow the soil to dry about one-third the depth of the container before watering.

Plants that are old may require a more thorough watering or soaking to be exact. Make sure you watch out and do not over water and allow the soil to dry between waterings. If Aglaonemas dry out excessively, the older leaves will begin to turn a solid canary yellow, then brown.

IS IT A LEAF or IS IT A FLOWER?

The Anthurium flower has become a symbol for the Hawaiian Islands, and the Spathiphyllum is known for its pure white "hoods" that stand above the dark green foliage, in spring.

Most people are not familiar with the Philodendron or the Aglaonema flower. Generally they are not flashy and get lost in the foliage.

The Aglaonema can be a very prolific bloomer, and may even at times confuse people. When they see the "flower" which is really an inflorescence (a group of flowers on a stem) they may mistake it for a distorted leaf. This can lead to other mistakes in caring for your plant by trying to "fix" the problem.

The flowers look very similar to a Spathiphyllum except for the fact that they usually have a "green hood" and a rather calcified looking spathe coming out of it. The "flower" is found below the foliage but easy to find if you look.



SHOULD YOU REMOVE THE "FLOWERS"

My recommendation is YES. The flowers serve no benefit, to the plant or to look at. In fact I have noticed an adverse effect from leaving them on the plant. An Aglaonema blooms pretty heavy even if they are insignificant and all the energy that goes into the blooming pulls nutrients or energy from the plant. The net result is new leaves that are smaller and sometimes distorted.

To prevent this potential problem, cut off or pinch the flowers as they emerge. Just make sure that you remove the flower and not the leaf!!!

DISEASES

Most of the disease problems that Aglaonemas suffer are during the propagation stages and before cuttings have rooted. The most serious of all is the *Erwinia* bacteria, of which there are two kinds:

- *Erwinia carotovora*
- *Erwinia chrysanthemi*

The symptoms of *Erwinia* are a wet, slimy rot of leaves or stems, visually you'll notice watery leaf spots and the centers of these spots will collapse or disintegrate.

When the leaves and stems become mushy they may have a foul smelly odor. You may think that the *Erwinia* is what causes the odor but it is the rapid decay of the plants cells that is rotting.

The best methods for controlling *Erwinia* are good culture, and starting with clean healthy cuttings. Growers use copper as a control that the homeowner probably will not have use of, but you can try sprays of vinegar solutions, which have been noted as helpful. You'll have to experiment with different rates for yourself.

One note... Bacterial stem rot is usually not possible to control once started.

Another disease that affects *Aglaonemas* is *Fusarium* stem rot. *Fusarium* shows itself normally as a soft, mushy rot at the base of a cutting or rooted plant and it very often finds its origins in stock plants. The rotten area frequently has a purplish to reddish margin.

If stem rot or cutting rot is a problem, remove infected plants from stock areas as soon as they are detected. Since *Fusarium* stem rot appears similar to *Erwinia* blight, accurate disease diagnosis is very important prior to any applications of pesticides.

There are other diseases that *Aglaonemas* can get such as:

- *Pythium*, a common root rot fungus of *Aglaonema*, which generally occurs under wet conditions or in heavy, poorly drained soils.
- *Myrothecium* and *Colletotrichum*, which you may notice as leaf spots on *Aglaonema* that can frequently attack wounded tissue, especially in propagation.

Most of these diseases hit *Aglaonemas* during the propagation and growing stages in the nursery. Homeowners should see very little of these diseases indoors where the humidity is reduced and temperatures are lower. You've probably noticed that the start of a healthy plant indoors is by purchasing good, strong healthy plants. Make sure you **begin** with plants that have a **strong, well-developed root system** and free of damage to the leaves... and **DON'T OVER-WATER** your plants indoors.

INSECT AND MITE PESTS

What kinds of insect and mite pests love *Aglaonemas*? Well that's another **one of the great benefits of Ag's...** they don't really have many problems with insects, mites or related pests.

The most common insect or pest is foliar and root mealybugs. Mealybugs are those white, cottony masses that usually like to gather where the leaf and stem join. You'll

also find them on the undersides of leaves and on the roots. Infested plants become stunted, and with severe infestations, plant parts begin to die.

Scales, aphids, and mites cause few problems with this plant.

DISORDERS

The most common disorders you are **most likely to experience** indoors are:

- **Tip Burn**
- **Cold or Chill Injury**
- **Excess Light or Temperature Stress**

Tip Burn

This can be a very common problem when the soluble salts get to high in the soil.

What are the signs of tip burn?

Look for brown or tan tips on the edges of a plant that's dry. For more information on salts and brown tips read: [Brown Tips a Reason Why...](#)

Cold or Chill Injury

This injury is a **seasonal problem during the cold months**. Cold injury is pretty easy to identify right off. You'll find gray splotches on the leaf and the over all appearance will be leaves that are dark and greasy looking. Chill damage shows itself in 3 to 7 days depending on the severity on the older leaves first.

The dark greasy look of the leaves is from cell collapse and the damage is permanent and the leaves will begin to yellow. This doesn't mean that the plant is dead... simply that the leaves have been damaged and the plant must grow out. The leaves may have suffered damage but the canes are still alive.

Remove the damaged leaves and try to keep the plant away from any further temperature drops.

So what is the temperature that can cause cold or chill injury? Well that really depends on the variety... "Silver Queen" is probably one of the most cold sensitive and anything below 55 degrees could show problems. Some of the new varieties have been measured in the 45-50 degree range but I wouldn't push it.

One area to keep in mind...

If you purchase Aglaonemas as weather begins to cool down make sure that you also watch the plants as you transport them home. **A brief cold blast** may be all it takes to have damage!!!

Excess Light or Temperature Stress

The light and temperature disorder is one that most people will not encounter indoors... but if some people have large windows it should be mentioned.

Although the temperature may be fine indoors if your plants are sitting close or next to windows the temperatures could heat up especially during the summer months.

Aglaonemas position their leaves according to light intensity. You'll know if your lighting is "satisfactory" if the leaves are at a more natural 45 to 90 degree angle from the stem vertically. If the leaves are less than 45 degrees the light may be too high and you may notice temperature stress. Also look for leaves that have a washed out appearance and in very extreme cases the leaf tips could even be very white or pale.

Reducing the light and/or temperature levels will bring the plants back to their normal position. If leaves have been severely bleached out they may not recover.

One obscure disorder is Bent Tip

The main leaf spike will have a fishhook appearance, and some older leaves will also have a hook at the leaf tip also. What appears to happen is that the new leaf tip looks like it is obstructed and caught by the next new leaf, resulting in the fishhook appearance.

The control for this condition is not known at this time, although excessive light and water stress seem to increase severity this problem. Growers notice this condition the most on "Silver Queen" during the summer months. Other varieties may also have this problem but many are too new in production to have all the data in yet.

Pest Control Basics

When we talk about pests on plants there are really only two types to learn about. **Sucking** and **chewing** insects. Understanding the difference can help in the effort to combat them.

Sucking insects such as scale and mites, “drill” into the plant and “feed” off the plant’s fluids, robbing them of essential nutrients. This is why many growers use systemic chemicals that go into the plants system.

Chewing insects like caterpillars and grasshoppers just flat out eat the leaves. Growers use chemicals like “wettable powders” which coat the leaf for these guys.

Here are a few rules to follow on all plants in dealing with pests:

- **Inspect** any new plants you buy or before you put it with your others.
- As a first step **always** look for the **least toxic method** of pest control.
- If you use a chemical for pest control – **READ THE LABEL.**
- **Always** wear protective clothing and safety gear; this includes a long-sleeved shirt, long pants, gloves, goggles and a respirator.
- **Don’t** spray indoors.
- **Keep kids away.**
- **Move infested** plants away from other plants.

Several methods are available to “handle” most of the pest problems on your indoor plants.

- Washing or rinsing the leaves and the affected area off with water
- Using insecticidal soap
- Horticultural oil
- Removal by hand
- Using predator insects

Check with your local garden center or nursery for available solutions for plant pest control.

Aphids

Aphids are sometimes called plant lice. You’ll find them on the tender new growth or on the undersides of leaves. They are equipped with piercing/sucking mouth parts where they ingest fluids from new tender growth and stems.

Size wise the aphid is tiny...about 1/8 of an inch and oval in shape. They may be green, pink, brown, white, black, yellow, red or gray in color. Aphids are commonly found on young, developing leaves and stems in clusters or colonies. Their feeding **distorts the new growth and they sometimes cause leaves to curl.**

Aphids live and work in colonies and are **generally easy to control**. **Safer Insecticidal soap**, will kill them on contact. You may need to repeat applications three times to be sure to kill the eggs as they hatch. Because aphid eggs are air-borne, keep an eye out for more, you may need to re-apply.

If one of the commercial soaps is not available, try 3-4 tablespoons of liquid dishwashing soap per gallon of water and apply as a foliar spray to your plant. Soap is effective in managing aphids, safe for people and the environment.

Scale

Scales are divided into three groups...armored scales, soft scales, and [mealybugs](#). Armored scales secrete a waxy covering over their bodies resembling a plate of armor. The scale lives and feeds under this covering, hence the name.

Scale is another one of those insects that come with piercing/sucking mouth parts.

Look on the undersides of the leaves and where leaves join the stem. Scale will appear as small lumps on the leaf. On indoor plants scale can usually be removed with a fingernail or wiped off.

One easy method of control is to **apply alcohol with cotton swabs directly on the scale**.

Horticultural oils are effective in combating scale and should be considered due to their safety to non-target organisms, people and the environment.

If you examine your plants regularly and keep the leaves clean, scale should not be a problem.

Mealybugs

Have you ever looked at a plant and saw what looked like cotton all over the leaves? If so, then you've seen mealybug. Mealybugs are cottony-looking insects with piercing/sucking mouth parts.

They **suck the fluids from leaves and stems**, and rob the plant of essential nutrients.

Mealybugs excrete large amounts of honeydew, this is excellent "growing soil" for a black fungus called sooty mold. Sooty mold is unattractive, and interferes with photosynthesis, it can also retard the growth of the plant.

Sooty mold usually weathers away after removing the mealybug.

Ants feed on the honeydew and when ants are observed, plants should be examined closely for these sucking pests.

Mealybugs live very well in a warm, dry environment. Damaged plants look withered and may have a sticky sap on the leaves or stems. They seem to deposit their eggs where the leaf and stem join.

As with scale, an easy method of control is to **apply alcohol with cottons swabs directly on the mealy bug**. Wiping down the foliage regularly will help keep the plants clean and mealybugs in check.

Spider Mites

Spider mites are one pest that people many times have and are **not aware of**, because of the mites size.

You may need to get out the magnifying glass to see them... they're only about 1/50 of an inch. Like the [scale](#) and [mealybug](#), spider mites have piercing/sucking mouth parts. They love the dry, warm environment they get indoors.

How can you tell if you have spider mites?

Look for damage on the undersides of leaves and for tiny, **rust-colored specks and webs**. Plants with spider mite damage have a sickly appearance, possibly, yellowing of the leaves and overall lack vigor. The plants may also **appear "dusty"**.

If you think that you may have spider mites but just can't tell, try this. Hold a piece of white paper under a leaf, and give the leaf a good hard tap. If tiny, **rust-colored specks** fall on the paper, your plant has spider mites. The mites (which are about the size of fine sand) are very easy to see on the white background as they try to crawl around.

Spider mites are so small that trying to wash them off with a hose or spray will most likely be unsuccessful.

Look at some of the insecticidal soaps and neem oil. Make sure you ...**READ THE LABEL**.

Safer Brand - Insecticidal soap
Neem Oil

<http://www.plant-care.com/PlantTips/2000/072200.asp>

Long term plants... is it possible?

What are your thoughts?

Does it seem realistic that someone could have the same plant for 1,3 or 5 years?

I asked the same questions of the readers of our weekly **Plant Care Tips**. We have thousands of subscribers that receive email every week with information on caring for their indoor plants.

By the way the subscription is **FREE** for the weekly e-zine. To subscribe go to www.plant-care.com/newslettersignup.asp.

I wanted to know how many have been **growing the same plant for over 3 years**.

Over 70 people responded... and what was the average time they had been caring for their plant? **8.9 years**... Yes it's possible to have a plant for years.

How often do these **successful, long term indoor plant owners** water their plants?

Basically 3 answers... **where do you fall in?**

- Once a week
- Every 10 – 14 days
- Monthly

What kind of light do they have their plants in...just in case you don't think you have the right light.

- Light from the south
- Not very bright – very neglected
- Bright window
- Indoors (winter) outdoors (summer)
- One hour of direct light
- Natural indirect light
- Poor lighting
- West window
- Light from a north window
- Office hallway
- North west lighting

...and it goes on and on. You can use plants indoors just about any place you can imagine... **once it is acclimated to its environment.**

Cold Tolerance Test...

Aglaonemas only have one thing to sell. .. foliage .. and attractive foliage at that. Any type of damage... environmental, mechanical, or pest related can ruin the plants beauty and salability.

Cold is one of the biggest production problems with growing **Aglaonemas**. Low temperatures don't just slow the growing side but also the quantity and varieties of plants available for you to purchase. **Aglaonemas that are exposed even briefly** to cold temperatures can be easily damaged.

The time it takes to just carry a plant from the car to the warm toasty indoors could be **enough to cause damage** or plants that are placed too close to a door which gives a good "cold blast" when it's opened can be damaged. **Temperatures that dip into the 50's can cause spotting on the leaves.**

You can identify cold damage on an Aglaonemas by the **dark greasy patches** on the surface of the leaves. You'll see the damage show up between 2 and 10 days later. The University of Florida has always been a "testing lab" for plants and their ability to handle different conditions. They also have been breeding new Aglaonemas to **meet market demands.**

Since there have been so many new varieties introduced in the last few years and so much claim to be able to handle lower temperatures ... they put them to the test... the Cold Tolerance Test.

The UF research center took twelve Aglaonema cultivars that were grown in 8 inch pots and chilled them for 24 hours in walk in coolers at 55, 45, and 35 degrees.

The plants were evaluated daily for the next 10 days and the percentage of damaged leaves were recorded.

Here are the results

Percentage of leaf damage after 10 days			
Variety	35°F	45°F	55°F
Emerald Star	0	0	0
Stars	0	0	0
Jewel of India	0	0	0
Black Lance	18.3	12	0
Maria	32	8.3	0

Green Lady	34	9	0
Green Majesty	50	17.3	4.7
Royal Queen	51	34.1	14
Moonshine	54	10	2
Silver Queen	68.3	37.7	29.7
Manila Pride	73	15.3	13.3
Silver Frost	80	4.7	0

Here were some key findings:

- Young leaves were more resistant to cold than older leaves.
- Three varieties showed no real damage after 10 days at 35 degrees.

They were:

- [Aglaonema "Emerald Star"](#)
- [Aglaonema "Jewel of India"](#)
- [Aglaonema "Stars"](#)

Most of the plants out performed one of the most widely grown varieties ["Silver Queen"](#)

How does all this mean to you... the ultimate plant owner?

- As good and durable as "Silver Queen" has been... **it's time to KNOW the name and variety** of the plants your buying and not just buy "foliage" alone.
- These new Aglaonemas really can handle lower temperatures.
- Plants that are subjected to "extremes" and survive... will thrive with care and reduced stress.
- Breeders are on the right track developing cold tolerant varieties and traits
- You can buy Aglaonemas with less worry of cold damage
- We now have more information on what to expect from these new plants

A couple of additional items about these new Aglaonemas:

- These new varieties have a lot more leaf patterns
- These plants are more compact

Aglaonemas are gaining in popularity every year. If you haven't taken a look at them you should and the reasons are simple.

They are:

- Great indoor plants
- Used in a wide range of available light situations even low light
- Easy to care for
- Available in more choices than ever

General Indoor Plant Care

Here are a few articles that will help you in caring for your plants indoors. Some are **specific to certain plants** and others are “**rules**” for indoor plants that will help you in caring for your plants.

[Should I Fertilize My Indoor Plant?](#)

Many people run right home and start fertilizing their plants. Are they doing any good or are they hurting their plants?

[Draining The Soil: A Key For Success](#)

Not draining the water from your indoor plants is one of the reasons plants have problems indoors.

[Cleaning Your Plants....](#)

Learn some of the benefits of cleaning your plants, it isn't just for looks.

[Air Temperature And Your Indoor Plants](#)

Many times we take for granted that the air temperature is the same throughout our indoor space. One look at the thermostat and our assumptions are confirmed. The fact is indoor temperatures are very often variable.

[Brown Tips On Plants - A Reason Why](#)

Are you always having to cut the brown tips on your plants, maybe the plant is telling you something and you're not listening.

[Why Repot Your Indoor Plants?](#)

Are you repotting your plant just because?

[Repotting Essentials](#)

If you're going to repot there is a right way.

Should I Fertilize My Indoor Plants?

If you look at some of the plant tags and think about it you'll become somewhat confused. I understand why people have problems with their plants indoors – They followed the **instructions on the tag...**

Such as - "Fertilize Regularly".

What does that mean?

- Every Day
- Three times a day
- Once per week
- Once per month
- Once per year

Let's briefly explain some things about:

- Your plants when you purchase them
- Fertilizer
- Why I would recommend to you...not to fertilize your indoor plants.

First, when plants are growing in the nursery they're receiving higher light levels and producing food to fuel its growth. It needs fertilizer to support itself, it's hungry!!!

When the plant moves indoors this process is slowed down (**greatly**).

Most of the time you see nutritional deficiencies when the plant is growing in the nursery. It may need more food or not have enough of a particular element, such as iron. We also see **deficiencies when plants flower**. The flowering process may be using up specific elements causing a deficiency that will show up in the leaves.

Indoors when you see **discoloring** it is usually from deficiencies also. Those deficiencies normally come from problems like **bad roots**, which will not let the plant use the food that it, has available. **Fertilizing is not the way** to help solve this problem.

Many growers today use a **time-release fertilizer**. Growers try to time their crops so that the plants are shipped with fertilizer activity being on the down side.

If you look on top of the soil you may notice some prills that are gray or golden in color. **This is usually the fertilizer**. They also try to remove most of this fertilizer off the top of the soil before shipping. The **plant should still have plenty of food** to sustain it for a long time, in both the soil and in the plant.

Fertilizers are basically salts. If you were to take a bag of lawn fertilizer and dump it into a pile on your grass, the grass would burn because of the salts. This is not a case of - **"A little bit is good and a little more is better"**.

If you were to take that same fertilizer and mix it with 10,000 gallons of water and poured it on the grass the salts would be diluted and you wouldn't or shouldn't have a burn.

What happens in a pot?

When you fertilize you are adding salts to the potting soil. If the salts are **not being leached out (through watering)**, they remain in the pot. Over a period of time you get a build up of salts that burn the roots. If you over fertilize, as it is easy to do, you are just multiplying the situation.

For instance, Dracaenas are particularly sensitive to fluoride and boron. They slowly accumulate these elements in the tips of the leaves. Ever wonder where those yellow tips come from?

How about those white stains on clay pots?

Have you ever heard that you should soak a clay pot in water before you reuse an old pot? The reason is the salts haven't been leached out of the pots and have accumulated in the pots.

Most of the fertilizer for indoor use is in a liquid form. It is more easily used by the plant. If you're going to fertilize... cut the dose. You could probably cut the recommended dose of 1 teaspoon per gallon to 1/5 or 1/6 of a teaspoon per gallon.

Leaching

In order to leach the plant of the salts you must add more water. Then, we run into the problem of overwatering.

Starting off by "thinking" you're **going to help** your plant by fertilizing...many times ends up with **additional "other problems" or potential problems**.

Remember

Our focus is on your indoor plants... outdoors or on a patio is a **completely different issue**. They probably can be fertilized but that is another topic at another time.

Let's Go Back To The Tag...

Is there ever a time to fertilize your indoor plants?

Yes... but very rarely.

The tag said to fertilize regularly, and I would agree. Fertilizer your indoor plant once every 5 years, but do it regularly.

Draining The Soil: A Key For Success

I walked into a restaurant one day and noticed a large planter that was full of water. The soil looked like it was very "heavy" and **not capable of draining** the water away from the roots for the next week or month.

Does the plant owner wonder how come the plants don't do well in this planter or soil?

Just as there are many components that make up machinery - **soil has unique components and properties.**

Developing a **healthy root system**, for indoor or outdoor plants require **good drainage**. If you have either indoor or outdoor container plants, be on the look out for salt buildup on the soil surface or pot.

What is salt build up?

Whitish-colored deposits can form and are composed of salts that build up from hard water and fertilizer. This is usually an indication of insufficient drainage, and not enough flow of water through the pot and soil.

To avoid salt buildup, water your plants each time until liquid runs out of the bottom of the pot. This is also a reason many people burn their plants with fertilizer - they leave behind salts that burn roots.

Make sure that the drainage holes on the bottom of each plant container are open to allow excess water to flow out of the pot.

Unfortunately, some plant containers such as terrariums, plastic pots provided with bulb forcing kits or decorative gift plant containers do not have drainage holes. Most plants used indoors are "double potted" all the time. The potted plant with drainage holes is placed into a decorative pot, without a drainage hole.

The smaller container and Styrofoam are placed in a larger decorative container, which matches the rooms' décor, or to make it easier to remove the inner pot for plant care. Make sure to check the level of the water in the bottom of the larger container regularly.

Do not let your plants sit in water collecting in the bottom of the decorative container or saucer.

If the plant's root system is submerged in water for long periods, root injury will occur if the condition is allowed to continue. Water thoroughly but make sure the excess water is drained off.

Another watering method is the use of sub-irrigation containers. Many interiorscapers use sub-irrigation because of the reservoir that it has and the ability to "program" when the plant needs watering again. There are several out on the market.

Remember that watering a plant is important - but draining the water off is just as important.

Cleaning Your Plants....

Many of the plants used indoors come from Florida, California and Texas. Some are grown in greenhouses, but most are produced under screened enclosures called shade houses. Generally, water is pumped from wells and the plants are watered overhead with sprinklers.

In south Florida where there is a large concentration of nurseries, water contains a lot of calcium. When the plants are watered overhead and the water dries quickly, a white residue sometimes remains on the leaves.

Growers try to clean the foliage but are not always successful. This is why when plants arrive at nurseries and garden centers you may notice some “white stuff” on the leaves.

Professional plantscapers always groom the plants before placing them in client’s interior. Grooming will consist of checking the soil, removing any extra fertilizer that is visible, trimming any damage that may have occurred in shipping, and cleaning the leaves to name a few.

There are professional cleaners out on the market but sometimes going back to the basics is all that is needed.

One of the recommended “cleaners” is the use of a very light solution of vinegar and water to remove the “white stuff”. The occasional use of light soapy water to clean, followed by a plain clear water rinse should be fine to keep your plants pest free and clean.

Wiping the Leaves

Many plantscapers use moist towels or cloths to wipe down dirty leaves. With a “wiper” in each of your hands, start wiping from where the leaf attaches to the stem all the way to the tip, carefully wiping both the top and bottom of the leaf at the same time. Apply enough pressure to remove any dust. Make sure you change the wipers regularly.

Leaf Shine

Many plantscapers don’t use leaf shine. Leaf shine products can clog pores and inhibit the ability of the plant to breathe. The leaves of indoor plants will naturally be shiny.

No matter what you have heard do not use any type of food product on plants. This can be a great place for pests to live. If you have plants in the kitchen area, watch out for grease that can accumulate on the leaves. These plants will need to be cleaned more often.

Over a period of time your plants indoors with narrow or wide leaves will accumulate dust. Periodic cleaning will help your plant live and grow longer indoors.

Air Temperature and Your Indoor Plants

Many times we take for granted that the air temperature is the same throughout our indoor space. One look at the thermostat and our assumptions are confirmed. **The fact is indoor temperatures are very often variable.**

Indoor plants in their natural setting normally are greeted with short-term temperature swings... day verses night. When introduced to the "alien" indoor growing environments of the nursery or interior they can face a range of different temperatures.

- Cold
- Cool
- Warm
- Hot

Most people find temperatures in the range of 60 - 80 degrees **comfortable**. This follows the similar temperatures that are found in the tropical areas that most of the indoor plants are native to.

Although **temperature is seldom an issue** with indoor environments, we must be aware of the subtle difference in temperatures throughout our indoor areas. Large rooms, hallways, and different exposures along with doors and windows can affect the temperature of your "microclimate".

Cold temperature problems generally show up slowly, **sometimes in a few days or even two weeks later**. Office buildings sometimes have the temperature turned down on weekends and cause chilling on your plants. It is also difficult to know if your plants are being cold damaged. Plants that have **cold damage** often have **downward curled leaves and/or mottling on the leaf edge**.

During the winter, we only think of cold being a problem but in fact we can face heat problems as well. Heat from heating vents or people moving the shades to get as much **direct light as possible can cause heat stress**. Leaves may turn yellow. The tips and edges can become dry, as well as spindly or stretched growth.

Sometimes the only remedy for the cold and hot problem is simple: **Move the plant!!!**

A Little Plant Science

Most tropicals have a fluctuation in day-night temperatures. I know from past experience the months of March-April and October-November are some of my favorite times of nursery growing. These periods produce slow strong growth because of cooler night temperatures and less day/light intensity. **The lower night temperatures translate into lower transpiration and less water loss.**

Try to eliminate wide swings in temperatures and monitor your plants for any changes that you may notice between the leaves and roots.

One other note:

During the holiday season keep this in mind. Plants like water on the soil and roots. They aren't too fond of that rare vintage wine or straight gin. People sometimes love to be courteous and empty their drinks in the soil of your plants.

Don't confuse cold or heat problems with alcohol damage.

Brown Tips On Your Indoor Plants - A Reason Why

Have you ever noticed a plant that from a distance looked great?

Looking at it closer you then noticed a lot of **brown tips on the leaves**.

Why brown tips?

Growers don't seem to have the same problem with brown tips while growing the plants. What is different from the growing end and moving indoors?

Yes, the plant does move inside and there is some stress from reduced lighting.

But, one answer may not seem quite so obvious.

What is it? - Water

Water is water - right?

Not so fast. Let's take a quick look at the differences in the water a grower uses and the water most people use on their plants at home.

Grower's Water

Most growers (that produce indoor plants) have wells with electric or diesel pumps. The pumps draw water directly from the ground.

Unlike the water that is found in most cities, this water hasn't been treated by the local water treatment plant.

Some growers are beginning to collect and "clean" water before using it on their plants. I didn't say add chemicals but clean the water. They are doing this through REVERSE OSMOSIS.

Water is pumped through a screen that is fine enough to allow water molecules to pass, but stops dissolved solids, such as salts (fertilizer) and other chemicals.

This "clean" water helps growers produce plants that have fewer problems with disease and clean foliage.

Homeowner or City Water

Tap water or city water is different. The water that comes out of your kitchen faucet has most likely been treated.

Years ago cities began to add fluoride to the water supply. Fluoride may be fine for your teeth but many indoor plants are not fond of it.

Lynn Griffith from A & L Labs states:

"Fluoridated city water usually has 1 ppm (parts per million) of fluoride, four times the amount considered safe for sensitive plants."

----- **Tropical Foliage Plants - A Growers Guide** -----

Check out Lynn's book **Tropical Foliage Plants - A Growers Guide**.
<http://www.plant-care.com/books/growguide.asp>

Lynn is President of A & L Labs, a testing lab that many growers use. His book is a MUST HAVE and MUST READ for any commercial grower of plants.

Don't get the idea that if you water your plants with water from the kitchen they are going to die. What does this have to do with brown tips on your plants anyway?

Over time some of these minor chemicals such as boron and fluoride build up in the leaves. This build up shows itself in the form of tip burn on Dracaenas (<http://www.dracaena.com>), and spider plants. Spathiphyllums (<http://www.spaths.com>) show distorted leaves with high boron.

There are other reasons for tip burn:

- Too much fertilizer
- Too much water
- Not enough water
- Chemical burn

Using good water on your plants is a great way to start.

How Can You Improve Your Water?

One of the easiest ways to help yourself get "good" or "better" water for your plants, is by filling up a container with water from the sink, and allowing the container to sit out overnight. This will allow the chlorine to dissolve.

Professional landscapers must deal with using and moving water around all the time. Some of them have no problems with fluoride and others it's a constant battle.

If you face browning tips on your indoor plants, you may want to take a look at your water. Helping to stop the possible headache of brown tips caused by "bad water" is just one more way for you to enjoy your plants more.

Why Repot Your Indoor Plants

People seem to like the idea of potting or stepping up their plants into larger pots. Some people even downsize their plants. I guess it's just the idea of repotting that makes people think things are going to grow like crazy.

If I can provide one word of advice on plant care at all it would be this...

GROW GOOD ROOTS and the foliage will follow...If you concentrate on this your plants "should" do well. Growing good roots is not based upon pot size.

Many people think that plants are going to do better just by repotting them. In the process of maintaining your plants indoors, most of them like to be on a schedule.

Introducing a new pot, new soil, and disturbing the root system may cause the plant to "react". This reaction could be in the form of dropping leaves, drooping or wilting leaves, brown tips, or the plant might just "grow" nuts.

Most of the plants used indoors will be able to grow for a long period of time in the containers they are purchased in. Some plants even seem to like having their root system a little cramped.

When you've purchased plants from your local nursery or garden center it is quite possible and very likely that the plants have traveled hundreds or even thousands of miles. The plant will be going through a recovery period and an acclimation period.

Let me take you through a brief trip of the plant as it makes its way to your home. Stay with me on this.....

An order is received at the "growing" nursery

- The plants are selected and pulled from the growing area and placed on trailers or conveyers.
- Plants are groomed and then placed in a sleeve (paper bag) or box.
- Plants are then reloaded onto trailers waiting for the trucker to pick them up.
- Shipment is loaded onto trucks.
- Trucking company usually strips the truck of all plants and then reloads it by their drop off points.
- Trucker delivers to the nursery or garden center.
- Plants are unboxed or unsleeved.
- Garden Center then puts the plants out for sale.
- You purchase the plant, load it up, and transport it home.

I said all of that to make a point.

You can look up in a 10th grade botany book, or you can look at the roots of most tropicals, and find tiny root hairs. The root hairs are the things that make the plant flourish. The tiny hairs help absorb the nutrients and moisture for the plant.

Think about this for a moment.

If someone dropped you on your head from 2 feet in the air, would it hurt? Now look at what happens to the root hairs from being in transit. They can become damaged, pulled off, or dried out. The root hairs need to be regrown.

Now let's look at the soil for a moment. The plant is growing indoors fine. It is on a regular schedule of once a week or every other week watering.

Unless the plant needs watering more than once a week, generally there is no need to repot.

It is decided that the plant must be repotted. It is planted into another pot, watered really well, with no roots to get rid of the water. Now it is time for you to figure out a new schedule for watering.

In the nursery this isn't a problem, because the plant is working hard with plenty of light to produce food and grow into its new shoes. Indoors the plant's metabolism is greatly reduced and will not be growing actively as much.

Don't (repot or step up) your plant just because it may look better. If you plan on stepping up your plant into a new container, follow these guidelines:

Does the plant really need it?

- Make sure the plant has a good root system.
- Move up to the next size pot, 6 to 8 inch, 8 to 10 inch, 10 to 12-inch and so on.
- Use a good, well-drained soil for tropicals. (ask your garden center)

And remember when you're shopping for plants make sure that they have a good root system... **BECAUSE, IF YOU GROW GOOD ROOTS** the foliage will follow.

Repotting **Essentials**

I'm not a big supporter of repotting your indoor plants. Many times this process causes more problems than it helps.

The fact remains that there is a time that plants may need to be repotted, and there is a right way and a wrong way.

This article is by:

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Although some of you wouldn't know it to look outside your window, Spring is on the way! To your indoor plants, the lengthening days are a stimulus to new growth, both above and below the soil surface. So you may want to start preparing your potting bench for that annual Rite of Spring....houseplant repotting. And to help you avoid the pitfalls of that ordeal, here are some tips to keep in mind:

Use A Pot Of The Appropriate Size For The Plant:

Potting up a 6-inch pot into a new 14-inch pot (where the 14" refers to the top inside diameter of the pot) is a surefire way to sentence that plant to the compost heap prematurely.

The new pot should be 1-2 inch larger in diameter and depth than the pot it's living in now, so the roots have room to grow, but the soil can dry down at an acceptable rate and not remain waterlogged for days or weeks after watering.

Drainage Is The Most Important Factor:

Drainage is the most important factor for the health of a repotted plant: and, no, that doesn't mean two inches of clay pot shards or gravel in the bottom of the pot! That's a no-no...

This just raises the wettest zone of the soil profile closer to the tender roots of your plant. It radically increases the risk of root rot due to lack of oxygen penetration into the rootball.

Just try this experiment if you aren't yet a believer:

Soak an ordinary washcloth in water, hang it up on a clothesline or shower curtain rod to dry, and notice which part of the cloth stays wettest longest...it's the BOTTOM, of course (see: Newton's Law of Gravity).

Your plant's soil does exactly the same thing. So, deeper is better, within reason, and always in proportion to the size of the plant's rootball.

Drainage holes in the pot are essential, but if you must pot into a gorgeous decorative cachepot, then plant your plant into an ordinary plastic or clay pot. Make sure that the pot is slightly smaller than that container, and just empty any drainage water after each watering.

NEVER let a plant stand in water for more than a few hours, or you WILL kill it!

Choose The Right "Soil" For Your Specimen:

Remember, "one size does NOT fit all".

If you are repotting a fleshy-rooted plant, such as a Rubber Tree, Dracaenas or Yucca, use a coarse-textured soil with fairly large particles of drainage material, such as lava rock (about 1/4" or so particle size).

This permits good drainage and root development and reduces the chance of overwatering due to slow-drying medium.

Conversely, fine-rooted plants, such as ferns, African Violets, begonias and many other smaller houseplants, do best in fine-textured soilless mixes composed of milled sphagnum peatmoss, vermiculite and "horticultural grade" perlite.

This holds moisture a bit longer for their more "sensitive" roots, and prevents desiccation (drying-up) in the smaller pots we usually grow them in.

Tease The Roots

When repotting, be sure to "tease" the roots out of their cylindrical rootball shape. This will help to speed growth and branching of new roots into the fresh medium.

You can do this by cutting away any large coils of roots that may have grown around the bottom of the old pot, or simply score the rootball vertically with a sharp knife in several places, cutting into the rootball about an inch as you slice from top to bottom.

Set the rootball atop a couple of inches of fresh potting mix that you have poured into the bottom of the new pot, filling in and gently but firmly tamping down the mix as you go, until the soil is even with the top of the plant's original rootball and about 1/2 to one inch below the rim of the new pot.

Give the freshly potted plant a good drink. Place the plant in good, filtered light out of any direct sunlight for the first couple of weeks, and stand back and watch it grow!

Shorten that Plant

Requests come in regularly from people asking **how to cut the top off their plants** because it has grown so tall or the plant is getting “floppy”.

First off, congratulations!!!

Your plant is doing very well, and because of your excellent care, it has out grown its space or needs some shaping.

So, let's look briefly at "pruning" and **why we need to do it**.

A couple of reasons to prune:

- Plant infested with [insects](#) or diseases
- Contain the size and shape

Insects and Diseases

Plants that have branches and growing tips infested with insects like mealy bug may need to be removed and thrown away.

Don't waste any time trying to root out a plant that is full of [mealy bugs](#) and or [scale](#) – throw it away. That's a great way to keep “problems” around.

Contain Size

Containing the size on an Aglaonema, Dracaena or Ficus is really our focus, pruning other indoor tropicals is another subject for another time.

In order for plants to look good in any interior setting they **need to "fit the space"**.

Over time a good healthy indoor plant will **outgrow** it's current space such as the case of a Dracaena in a room with the standard 8-foot ceiling or an Aglaonema and that can get “floppy”.

Before you jump in and start chopping away, if the plant is too big... ask yourself first if there is any other place that you could **move this plant**. If your luck is anything like mine the answer will be – **NO**.

Now, we know our only option is to perform surgery.

How much do we remove?

Remember, when you cut the tip or branch off...your **new growing tip(s)** are going to be coming out of the top of the cane or side of the branch. Make sure that you remove enough to allow for **future growth** or should we say **re-growth**. If your plant is hitting the top of a standard ceiling, think about removing at least 24 to 30 inches.

The new growth on a *Dracaena fragrans* or *Massangeana* can be 8 to 12 inches. It won't be long before you'll be **pruning it down again**, with your **good growing techniques**.

Some canes or branches can get **pretty thick** so don't think you're going to get out the kitchen scissors to cut through the "wood". My favorite are the [#2 clippers made by Felco](#). They are **tough, durable, and will last for years**. On plants such as an *Aglaonema* a razor blade works very well.

Time to Cut - **Let's Do It.**

Don't make it real complicated.

- **Select** what you want to remove
- **Take off** a few leaves to expose the cane or stem (on *Dracaenas* check out the trick - below)
- **Make a clean cut**, no ripping, tearing or shredding
- You may want to **remove some of the leaves right at the top of the cane**
- Now is a good time to [give the plant and leaves a good cleaning.](#)

Over a period of a few months new growing tips will begin to emerge and mature.

Try your hand at rooting it...

The plant tip will **most likely be large** with a lot of foliage. **Remove some** of the lower leaves. Then take the cutting or tip and place it in a **moist well-drained potting soil**. Don't use a large pot, six inches is probably fine. Place the plant in a well-lit area but not direct sun.

Wait... **Keep the soil moist but not wet.** Over a period of time roots should slowly begin to appear. Now you have a **new plant** to grow and experiment on.

Recommended Reading

How to Grow **Fresh Air**:

50 **Houseplants to Purify** Your Home or Office

<http://www.plant-care.com/Books/50Plants.asp>

Tropical Foliage Plants – A Grower’s Guide

<http://www.plant-care.com/Books/Growguide.asp>

A must read for any nursery that produces and cares for tropical plants commercially.

House Plants for Dummies

<http://www.plant-care.com/Books/Dummies.asp>

Make your Knowledge Sell

<http://myks.sitesell.com/plantcare.html>

This is the book that helped me to develop this “success” manual. Everyone has knowledge that someone else can use. Unleash your brain power and create something profitable. Over 700 pages plus, that will help you dig inside yourself and pull out ideas to help you “build” an information product.

Make Your Site Sell

<http://www.sitesell.com/plantcare.html>

A 1,000 page “Bible” on developing a website that “sells”, plain and simple.



Aglaonemas are a versatile group of plants that you can find a place for in almost any interior setting.

[Refer this e-book to someone else.](#)

Please help us improve this book...If we have excelled in areas please let us know and if we let you down in others, I'd **really** like to know where we can improve.

<mailto:info@plant-care.com>

My sincere hope is that the information provided will help you learn and understand your Aglaonemas more. That you'll grow and enjoy them in your home and office, for days, weeks, months and years to come.

Just grow'em,

Gary Antosh

